Revenue Lost
due to
running of undersized Block rakes

Moot points

- Charging of undersized block rakes at T/L class is a common phenomena.
- Block rakes containing **unfit for loading wagons** are allowed to run along with loaded fit wagons against indents for block rake.
- Railway ends up realizing the freight at T/L class for the fit wagons only.
- The freight for the unfit wagons in the rake which are run are foregone.

Standard rake size and rationale

Rationale:

To maximize revenue per rake without incurring additional operating cost.

Standard Rake size:

Standard rake size is notified considering wagon length, length of loop line, wagon type, PCC, engine capacity etc. The latest notification vide Rate Master Circular/Block rakes/2015, circulated vide No. TCR/1017/2015/01 dt 05.06.15

Charging:

Freight is realized at TL class for the fit wagons only against indents for block rake.

Case Study

Transaction Month-May 2014

- No. of rakes during the month - 3565
- No. of rakes with unloadable wagons (Undersized rakes) - 835
- No. of unloadable wagons – 2843
- % of undersized rakes – 23.42%
- Total Revenue earned during the month –
  Rs1062.67 crores
- Revenue foregone- Rs13.69 crores (1.3%)

Case Study … continued

Transaction Month-October 2015

- No. of rakes during the month - 4022
- No. of rakes with unloadable wagons (Undersized rakes) - 1093
- No. of unloadable wagons – 3865
- % of undersized rakes – 27.18%
- Total Revenue earned during the month – Rs 1489.84 crs
- Revenue foregone- Rs 20.26crs (1.36%)

No. of Undersized rakes

Wagon deficiency	May-14	Oct-15
Upto 5 wagons	689	911
6 to 10 wagons	109	144
11 to 15 wagons	28	24
More than 15 wagons	9	14

Observations

Type of deficiencies in wagons

a) Bottom hole
b) Door damaged
c) Side panel bulge/Cut
d) Roof hole (Covered wagons) in monsoon
e) Lock defect/DOM cylinder defect (BOBRN)

Observations *… contd*

- Rakes were of standard block size.
- Wagons '**fit for running but unfit for loading**' are in the rake along with fit wagons.
- Unfit for loading wagons are neither repaired nor detached on detection/certification.
- Avoidable empty haulage is earned along with freight foregone.

Suggestions

Suggestions to prevent running of undersized rakes :

- Mobile repair unit of Carriage and Wagon staff

- Repair by Siding holder -
  -repairing cost adjustable from Damage & Deficiencies charges; or
  -on billing & payment

- Incentive to siding holder for repairing

Suggestions *… Contd.*

- Ensuring accountability for formation of standard size block rakes.
- Reporting of unfit wagons by the staff in the RMS
- Wagons with major deficiency may be detached and attended to.


THANK
YOU

OPTIMIZING EXPENDITURE ON TRACTION ENERGY

Allahabad Division

NORTH CENTRAL RAILWAY

Overview

- The electrification of routes is set to increase over NCR.
- With the phasing out of diesel locomotives and increase in line capacity, the expenditure on traction energy will further increase and become a major component of non staff cost for IR.

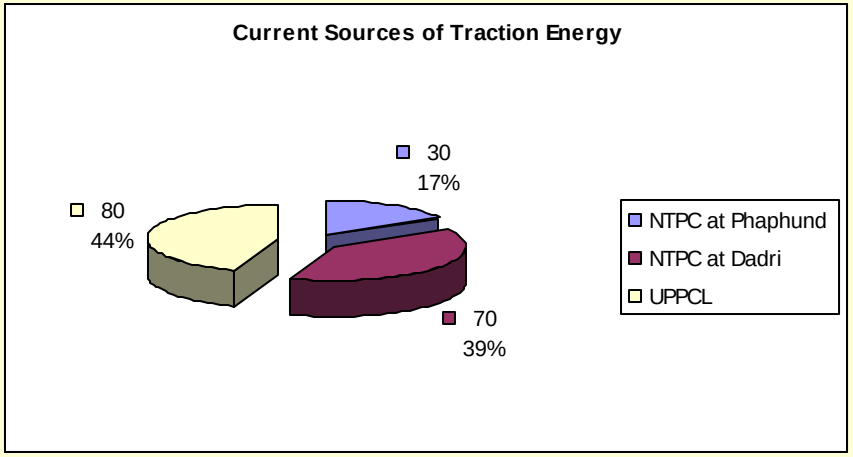
Description		ALD Division	NCR	IR
Present Electrification	%age	74.22%	56.92%	39.92%
	Route kms	783.66	1831	26269
Proposed Electrification	%age	9.75%	19.12%	9.88%
	Route kms	102.97	615	6500

Sources of Traction Energy

- Total contract demand for traction in ALD = 180 MW (breakup shown alongside)
- **NTPC**- feeds 100 MW Power in CNB-GZB section through two points namely Phaphund (30MW) & Dadri (70MW)
- **UPPCL**- feeds 80MW power in section MGS-CNB at 10 points:

  132 KV : Narayanpur, Pathraiya, Bheerpur, Manauri, Radhanagar

  25 KV: Chunar, Jigna, Rewa Road,Sirathu, Malwan



Reduction in Revenue expenditure –

Existing Possibilities

- Through vendor selection. Presence of multiple private and public sector players in the energy market and competition between them can be used to IR's advantage.
- By exploring new financial instruments while entering into contracts.
- Timely payments and availing rebates thereon and other benefits offered by suppliers.

e.g. Rebate availed for the month of Oct-2015 (Fig. in Lacs).

NTPC	@ 2.1%	22.24
DVC	@ 2%	21.77
UPPCL	@ 0.25%	6.25

Savings through vendor selection

1. A power purchase agreement was signed with DVC on 05.02.2015 for availing 50MW traction power supply through Short Term Open Access for the period Mar-15 to Nov-15.
2. Earlier average unit rate through NTPC was Rs. 4.78 (for F.Y.2015-16) , present average unit rate through DVC is Rs. 3.91 (for F.Y.2015-16).
3. Since above agreement is upto 30.11.15 , a new Power purchase agreement for procurement of 50 MW Power has been signed with Adani Power limited on 15.10.2015 @ Rs.3.69 per KWH through bidding on Medium Term Open Access basis for the period of 3 years.

Analysis of Traction Energy Consumption & Payment for year 2013-2014, 2014-2015 & 2015-2016 in Allahabad Division

Sl. No.	Items	Supply System	Year		
			13-14	14-15	15-16(upto Sept-15)
1	**Energy consumption in (MU)**	25 KV (five points)	208.68	197.43	91.20
		132 KV (five points)	211.94	213.16	113.17
		UPPCL (Total)	420.62	410.59	204.37
		Avg. per month of UPPCL	35.05	34.22	34.06
		NTPC	805.26	766.95	195.7
		Avg. per month of NTPC	67.11	63.91	32.62
		DVC	0	37.67	200.63
		Avg. per month OF DVC	0.00	37.67	33.44
		Total	**1225.88**	**1215.21**	**600.70**

Sl. No.	Items	Supply System	Year		
			13-14	14-15	15-16(upto Sept-15)
2	Charges in Crores of Rs.	25 KV (five points)	139.48	140.61	70.37
		132 KV (five points)	138.58	152.28	85.4
		UPPCL (Total)	278.06	292.89	155.77
		Avg. per month of UPPCL	23.17	24.41	25.96
		NTPC	546.05	453.3	93.56
		Avg. per month of NTPC	45.50	37.78	15.59
		DVC	0	15.23	78.39
		Avg. per month of DVC	0.00	15.23	13.07
		Total	**824.11**	**761.42**	**327.72**

Sl. No.	Items	Supply System	Year		
			13-14	14-15	15-16(upto Sept-15)
3	Average Rate in Rs per Unit	25 KV five points	6.68	7.12	7.72
		132 KV five points	6.54	7.14	7.54
		UPPCL (Avg.)	6.61	7.13	7.63
		NTPC	6.78	5.91	4.78
		DVC	0	4.04	3.91
		Total	**6.72**	**6.37**	**5.44**

Through Financial Instruments

- LC " It is a bank guarantee equivalent to 105% of monthly billing, issued by Nationalized bank on the basis of payment of commission charges at specified rate."

Percentage of LC charges levied for NTPC supply of Rs. 31.94 Cr.

(Fig.in Rs.)

NTPC	@ 0.012% + Service tax	1894876 /- Annually
NRLDC	@ 0.012% + Service tax	1659/- Annually
PGCIL	@ 0.012% + Service tax	127982/- Annually

Contd.....

Through Financial Instruments

- LOA " It is an Assurance issued by RBI free of cost, equivalent to 105% of one month estimated billing in Million unit."

- A LOA has been executed in compliance of Railway Board's Instruction in lieu of LC in ALD division in f/o DVC for Rs.15.57 Crore. Shifting from LC to LOA has resulted in saving of annual LC charges for Rs. 947438/-.

Saving Through Other Means

- **Simultaneous Maximum Demand(SMD):** Earlier billing used to be done as per maximum demand recorded at each Supply point**.** After implementing clause of SMD, billing at all 10 supply points is being done as per SMD recorded at any day and time of the month and energy consumption is billed as per meter, The MRI data of all the points is being used to work out the SMD at every 15 minutes interval.
- Reduction in contractual demand after implementing SMD is as shown below:

Supply Point	Jeonath-pur	Chunar	Mirzapur	Jigina	Bheer-pur	Naini	Manauri	Sirathu	Rasula-bad	Malwan	
Earlier Maxi. contract Demand in MVA	14	12	13	14	10	13	10	13	13	13	125
Present Contract Demand in MVA	13	5	7	7	8	8	6	8	10	8	80
Remarks	Reduced by 1 MVA	Reduced by 7 MVA	Reduced by 6 MVA	Reduce-d by 7 MVA	Reduced by 2MVA	Reduc-ed by 5 MVA	Reduced by 4 MVA	Reduced by 5 MVA	Reduce-d by 3 MVA	Reduced by 5 MVA	Decreas ed by 45 MVA

Saving Through Other Means

- A petition was filed in UPERC/Lucknow for implementation of Simultaneous Maximum Demand, which had been decided in favour of Railways resulting in saving of Rs.8.83 crores in the financial year 2015-16. SMD implemented from May-2010 and saving has been made for Rs.80cr upto Sep-2015.

- As per CERC guideline, beneficiaries who are maintaining revolving LC are eligible for 2% rebate. In this context a new rebate scheme has been launched by NTPC vide which a rebate of 2.1% will be given for prompt payment, which has been opted by NCR. As a result of this new scheme, Rs.7.01 lakhs saved in FY 2015-16.

Contd…..

Saving through other means

- A representation was made by Allahabad division to UPERC for acceptance of rebate on prompt payment in the public hearing at Varanasi. After concerted efforts by the Railways, representation was accepted by UPERC and guidelines issued for rebate (@ 0.25%) on prompt payment resulting in saving of Rs. 37.39 lakhs in FY 2015-16.

- An agreement was executed between Railways and NTPC in 1998 with the clause that Railways will pay @ Rs.0.80/- per unit as service charge. In this regard a supplementary agreement has been executed on 29.1.15 for discontinuing the service charge @ Rs.0.80 per unit. This has resulted in saving of Rs.10.17 crores in FY 2015-16.

Steps Under Pipeline

- Proposal for 50 MW additional power from REMCL through bidding process in section CNB-GZB is currently under process.
- Naini Grid Sub-Station (NYN-GSS) is likely to be commissioned in Mar-16, thus 40 MW power is required at NYN-GSS to discontinue the UPPCL power supply in NYN-CNB section (as Avg. rate of UPPCL is higher).
- Simultaneous Maximum Demand has been proposed for all power distribution companies.

North Central Railway Allahabad Division

Demand no.10 (Operating Expenses-Fuel) MH-300 (330)

P.U.	Act.1st 6 Month		Act. Exp. for Last 6 month		Act. Exp. 2+4	Revised Estimate 3+5	Budget Allott-ment	Variation	Anticip-ated Saving
			Actual	Estimated 8-3					
	2014-15	2015-16	2014-15	2015-16	2014-15	2015-16	2015-16	Col.7-6	Col.7-8
1	2	3	4	5	6	7	8	9	10
32	3248229	2731965	3115707	3147335	6363936	5879300	7258312	-484636	-1379012
99	170748	137935	162607	165649	333355	303584	382612	-29771	-79028
Total	3418977	2869900	3278314	3312984	6697291	6182884	7640924	-514407	-1458040
Cr. MH 900	-170748	-141903	-156443	-156093	-327191	-297996	-411428	29195	113432
Net	3248229	2727997	3121871	3156891	6370100	5884888	7229496	-485212	-1344608

THANKS

ESTIMATING TRACK RENEWAL – Solapur Model

- Sharing of information
- Savings enhancement steps

Presented by Shahzad Shah, IRAS
FA&CAO, Central Railway

THE STRATEGY UNDERTAKEN

- Track Management System Data taken.
- 1 staff of Accounts office stationed in Divisional Control – collect and collate data of caution orders, Ballast balances, Hopper Movements.

- Caution Order Programme - Data entry of various cautions, KM-wise

- Both data collated and matched to find out:
  - actual requirement of Ballast.
  - track condition and
  - redundancies in the various proposals by overlapping detected

WHAT IS TO BE LEGISLATED ?

1. The Track Management System should have a read-only access for Accounts Department both at Zonal Headquarters and Divisions.

2. Permanent Staffing of single shift of accounts in all Divisional Control and sharing of the data related to Ballast movement, Hoppers,etc

3. Track Diagrams should be part of all Track Renewal and related estimates.

4. Directives to be issued by the Engineering (Track) Directorate in consultation with Finance Directorate

A SAVINGS OF 3% TO 100 % IN VARIOUS TRACK RENEWAL ESTIMATES ACHIEVED

IN SIX MONTHS RS 6 CRORES SAVINGS ACHIEVED IN SOLAPUR DIVISION IN ONE PLAN HEAD

BASIC SYSTEM IMPROVED – CAN BE IMMEDIATELY IMPLEMENTED IN ALL 68 DIVISIONS OF IR – APPROX ANNUAL SAVINGS

RS 1000 CRS

Let us make a beginning

THANK YOU

IRAS DAY

Review of Contracts in Negative PVC Scenario

North Western Railway, Jaipur

28.11.2015

Review of contracts in negative PVC scenario

- Non submission of PVC claims by Contractors in case of downward trend of prices.
- Saving due to reduction in rate on account of negative PVC as per GCC clause 46(a).
- The negative trend of PVC is primarily more predominant in the category of ‘other works contract’.

Components in category of 'other works contract'

- Labour component - 30 %
- Material component - 40 %
- Fuel component -15 %
- Fixed component - 15%

Indices trend

Component	Oct-2014	Sept-2015	Difference	% Variation
Labour	253	266	13	+5.1
Material	183.70	176.60	-7.1	-3.86
Fuel	210.80	175.60	-35.2	-16.70

Impact of PVC as per component weightage between Oct 2014 to Sep 2015

- Labour 0.30 x 5.1 = (+)1.53
- Material 0.40 x (-)3.86 = (-)1.54
- Fuel 0.15 x (-)16.70 = (-)2.51
- Net overall impact = **(-)2.52%**

- 2.52 % is the saving on a payment made in case where tender opened in Oct-14 and certain payment became due after one year

Case study

- 7 cases have been reviewed in NWR
- Period of PVC Oct 2014 to June 2015
- Amount paid = Rs. 20,04,18,916
- PVC Recovery detected = Rs. 21,45,778
- Average recovery impact = 1.07%

Tentative Financial impact

(A) Plan head 30 (ROB/RUB)

- Expenditure from April 15 to Oct 15 = Rs. 105 crore
- Anticipated Saving considering average factor of 1.07% = 105x1.07%=1.12 crore

(B) Plan head 29 (RSW), 32 (BR), 51 (SQ), 52 (SA), 53 (PA) & 64 (OSW)

- Expenditure from April 15 to Oct 15 = Rs. 58 crore
- Anticipated Saving considering avg factor of 1.07% = 58x1.07%= 0.62 cr

(C) Total impact for 7 months = 1.12 + 0.62 = 1.74 cr

(D) Anticipated impact for one year = ((1.74/7)*12)= 3 cr

(E) Other plan heads like 11 (NL), 14 (GC), 15 (DL) etc have components of earth works, ballast, tunneling contracts as well as 'other works contract'. These will also have PVC savings accordingly.

Action plan

- For all cases of PVC applicability contracts, PVC calculation sheet to be made part of running bill irrespective of any claim by contractor

- All units to make a list of PVC contracts by 15thDec-2015

- Review previous payments by 15.01.2016

- Recovery to be ensured during current financial year

Thanks!

IRAS DAY
2015
PRESENTATION
CLW

PRODUCTION & PROCUREMENT

- In a production unit if the procurement of any item from Trade is cheaper than In-house production, then it should be procured from Trade only and staff engaged in that activity may be redeployed to other units for better utilization of available manpower and reduce productivity loss.
- Multi-skills training to be imparted.

WORK CHARGED POSTS

- Work charged posts may be operated only at the places and projects for which the posts were created.
- There should be specific provision for Gazetted posts in the estimate like JS,SS,JAG or SAG/HAG.

TRANSFERS & POSTINGS

- Transfers/postings are finally Administrative decisions of Competent authority, hence it is unfair to curtail any type of privileges of concerned staff or Officer on account of request transfer.

WORK STUDY

- Before creation of any post, a work study may be done for Justification of the post.
- Review of sanctioned strength of staff once in 5 years may be made mandatory.

Suspension/D&AR cases against staff/officers should be finalised within prescribed period or earlier so that optimum manpower can be utilised.

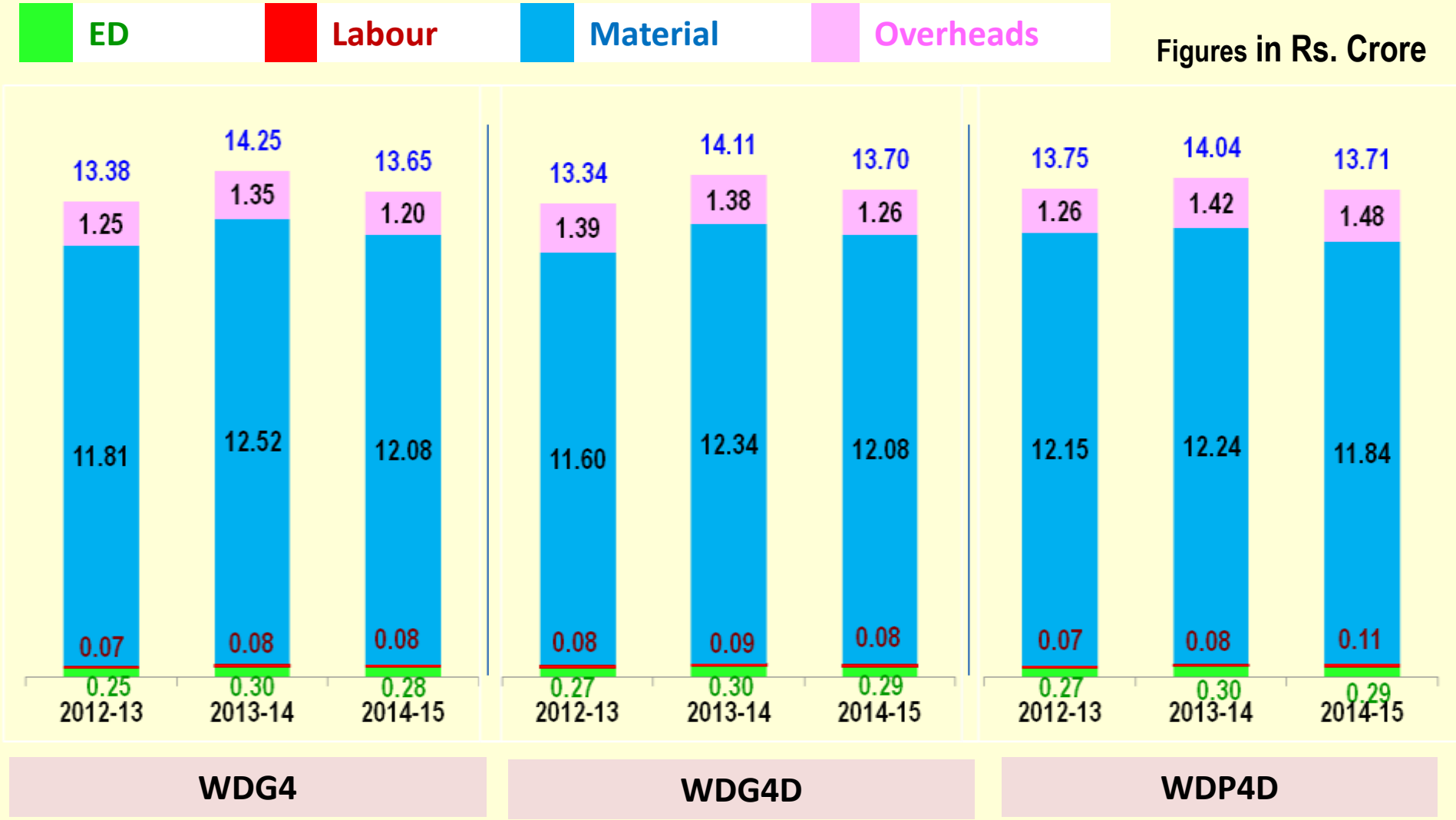
THANKS

Diesel Loco Cost Reduction due to Indigenisation

By

FA&CAO/DLW

Breakup of Unit Cost (HHP) (in Rs. Cr.)



- As The material Cost consist of More than 85% cost of the loco the focus was on reducing the cost of material mainly by Indigenisation.

- With Indigenisation at least 22% (Approx) cost get reduced because of Reduction of CIF Value

- Percentage of Import Content in HHP Locos

Year	WDG4	WDG4D	WDP4D
2012-13	35.24	35.32	33.71
2013-14	37.34	34.52	36.58
2014-15	22.21	19.05	20.69
2015-16 (Expected)	18.8	14.05	18.0

Reduction in Cost of Loco in 2015-16

SNO	YEAR	WDG4	WDG-4D	WDP-4D
1	2013-14	14.25	14.11	14.04
2	2014-15	13.65	13.70	13.71
3	2015-16	12.90	13.40	13.40

Figures in Corers of Rs.

- There are Approximately 2600 Items Fitted in HHP Locos which are Purchased from Trade

- Out of these there are approximately 600 items where there is no indigenous Sources and Mostly Single Source Item

- There is a need to develop more Sources. It has been decided to Develop more Indigenous Sources so that the cost get reduced.

Likely Reduction in Cost of Loco

SN	Description of Item	Last Purchase Rate (approx.)	Current Rate (approx.)	Reduction in Purchase Price	% Reduction in Cost	Qty per Loco	Reduction in Cost per Loco
1.	AC-AC Traction System	303 lakh	241 lakh	62 lakh	20	1	62 lakh
2.	Traction Alternator	128 lakh	78 lakh	50 lakh	39	1	50 lakh
3.	Crank Case	152 lakh	92 lakh	60 lakh	39	1	60 lakh
4.	Traction Motor	32 lakh	23.50 lakh	8.50 lakh	26	6	51 lakh
5	Air Compressor	6.95 Lakh	4.58 Lakh	2.37 Lakh	34	1	2.37 Lakh
Total Reduction							225.37 lakh

Purchase (in Rs. Crores)

Year	No of Loco Produced	Imported	Indigenous	Percentage of Imported /Indigenous
2012-13	294 (251 HHP + 43 ALCO)	1429	1642	87%
2013-14	304 (271 HHP + 33 ALCO)	1659	2563	64.7%
2014-15	266 (250 HHP + 16 ALCO)	1080	2393	45.13

- In the current Year A committee has been formed consisting of 3 HOD's to Focus on Development of Indigenous and Multi Sourcing and we have already in the process of floating developmental Tender for 56 item which constitute a Cost Factor of Approx Rs 232 Lakhs/Loco as per their Recommendation.

- Also as per Railway Board Guideline Issued vide Rly. Bd.'s Letter No:99/RS(G)/709/1/ Dated 13/01/2015 , In regular Tender also up to 15% of NPQ may be given as Developmental Order
- With this, order quantity required for being approved source is being given normally.

- Normally Vendor Development takes time in the range of 1-2 year before Vendors will be given Part I/II status after Development Order is given.
- With Focus on Vendor Development It is likely that Loco cost should also get reduced substantially as seen from the trend of Top 5 item given earlier.
- Apart from Other with the introduction of New Cenvat Scheme We are likely to Save 75-80 Corers of Rupees which will reduce the Cost of Material and in turn Loco Cost

THANKS

CASH LIFTING BY SBI ON ECR

AN INNOVATION IN OUTSOURCING

INNOVATIONS IN ECR

- **SINGLE WAGE PERIOD**
- **100% SALARY PAYMENT THROUGH BANK**
- **COMPLETE VENDOR PAYMENT BY RTGS/NEFT**
- **COMPREHENSIVE CASH LIFTING BY SBI**

- **CASH LIFTING BY SBI BEING LATEST & MOST INNOVATIVE ONE**

- **THIS WILL DISPENSE CONVENTIONAL PHYSICAL CASH CARRYING SYSTEM THROUGH CASH SAFE IN TRAINS**

- **AFTER ITS IMPLEMENTATION ECR WILL BE A ZERO CASH RAILWAY BOTH IN EARNINGS & EXPENDITURE**

SALIENT FEATURES

- **OMNIBUS SYSTEM OF CARRYING CASH BY SBI FROM ALL STATIONS OF ECR WHICH ARE PRESENTLY IN CASH CARRYING SYSTEM**

- **THIS MAKES ECR A ZERO CASH MOVEMENT RAILWAY**

- **SBI IS TAKING CASH FROM STATIONS & DEPOSITING IT IN NOTIFIED SBI BRANCH UNDER RAIL SHAKTI SCHEME**

- **ZONAL OFFICES OF THREE STATES i..e BIHAR, MP & UP OF SBI INVOLVED IN THIS SCHEME**

THE SCOPE

- **TOTAL 340 STATIONS (OUT OF 397) COVERED UNDER 84 ROUTES OF DEPOSIT**

- **57 MAJOR STATIONS ARE AT PRESENT DIRECTLY LODGING THEIR CASH TO THE BANK AND ARE NOT PART OF THIS SCHEME.**

- **EACH ROUTE COMPRISES OF 4 TO 5 STATIONS WITHIN A RANGE OF 70 – 80 KMS.**

THE SCOPE

- **ECR HAS SIGNED MOU WITH SBI AFTER OBTAINING IN PRINCIPLE APPROVAL FROM RAILWAY BOARD**

- **VALIDITY OF MOU IS FOR FIVE YEARS WITH A PROVISION OF COMMERCIAL REVIEW AFTER 2 YEARS.**

- **PRESENTLY THE SYSTEM IS FOR CASH ONLY BUT IN FUTURE IT WILL ALSO INVOLVE CHEQUES & INSTRUMENTS AS SBI IS IN CONSULTATION WITH THEIR CORPORATE OFFICE REGARDING TRANSFER OF CHEQUE /INSTRUMENT AMOUNT TO RAILWAY'S ACCOUNT AS PER RULE**

THE SCHEME

- **84 ROUTES COMPRISING OF 4 TO 5 STATIONS WITHIN A RANGE OF 70 – 80 KMS HAS BEEN IDENTIFIED.**

- **GENERALLY ONE NOMINATED SBI BRANCH HAS BEEN SELECTED FOR EACH ROUTE.**

- **CONCERNED SBI BRANCH WILL TRANSFER THE DEPOSITED CASH TO THE FOCAL POINT BRANCH AT SBI , HAJIPUR IN OUR DEPOSIT ACCOUNT**

THE SCHEME

- **SBI HAS ENGAGED A CASH MANAGEMENT COMPANY M/S WRITER'S SAFEGUARD CO. FOR THIS ARRANGEMENT & THE RESPONSIBILITY OF THIRD PARTY LIES WITH SBI**

- **SAFETY OF CASH HANDING OVER IS IN TWO TIERS TO SAFEGUARD RAILWAY'S INTERESTS**

- **FOR UNIQUE IDENTITY OF THE AUTHORIZED PERSON OF SBI TO COLLECT CASH AT STATIONS WE HAVE INTRODUCED THE SYSTEM OF SCRATCH CARD NO. EXCHANGE SYSTEM BETWEEN STATION AND THE BANK'S AGENT APART FROM IDENTITY CARD JOINTLY SIGNED BY SBI & SR DCMs**

THE SCHEME

- **TOTAL DEPOSIT UNDER THIS SCHEME IS ESTIMATED TO BE Rs.792 CRORES APPROX PER ANNUM.**
- **TOTAL YEARLY EXPENDITURE WILL BE Rs. 3.31 CRORES**
- **SO THE TOTAL EXPENDITURE INVOLVED WILL BE 0.42 % OF THE TOTAL DEPOSITED AMOUNT**

ACCOUNTAL

- AUTHORIZED AGENT OF SBI WILL LIFT THE CASH FROM STATION PREMISES AND GIVE ACKNOWLEDGEMENT ON PROVISIONAL TR NOTE ON RECEIPT OF CASH.

- THE STATION ABSOLVES ITS RESPONSIBILITY OF CASH AFTER HANDING IT OVER TO THE AGENT OF SBI.

- AFTER HANDING OVER THE CASH IN THE BANK THE AGENT DELIVERS THE ACKNOWLEDGED TR NOTES TO THE STATIONS (GENERALLY NEXT DAY OF CASH RECEIVING).

- THIS TR NOTE WITH THE STATION CR NOTE WILL GO TO DIVISIONAL CASH OFFICE AND IN TURN CHIEF CASHIER'S OFFICE.

SAVINGS

- **FOR EACH ROUTE PAYMENT IS Rs 28,915/- PER ROUTE ALL INCLUSIVE PER MONTH .**

- **TOTAL ESTIMATED ANNUAL EXPENDITURE ON THIS SCHEME IS Rs 3.31 CRORES WHEREAS THE TOTAL ANNUAL SAVING OF THE FIVE DIVISIONS OF ECR IS Rs 5.95 CRORE.**

- **THE NET ANNUAL SAVING INVOLVED IN THIS PROJECT IS Rs 2.64 CRORE.**

- **SAVING IS MAINLY DUE TO SURRENDER/REDEPLOYMENT OF STAFF AND SAVING ON ACCOUNT OF TRANSPORTATION CHARGES.**

SAVINGS

SL	DEPT.	POSTS SURRENDERED /REDEPLOYED	MV OF STAFF COST SAVINGS (Cr)	OTHER SAVINGS (Cr)	TOTAL (Cr) P.A
1	ACCOUNTS	56	2.78	-	2.78
2.	COMM	35	2.13	0.41	2.54
3.	RPF	18	0.61	-	0.61
4.	TOTAL	109	5.54	0.41	5.95

SAVINGS

- **TOTAL SURRENDER OF VACANT POST IN CASH & PAY WILL BE 112 OUT OF THE SANCTION STENGTH OF 256 AT THE MOMENT**

- **APART FROM ABOVE 56 INCUMBENTS WILL ALSO BE SURRENDERED ON ACCOUNT OF THIS CASH LIFTING**

- **THE MONEY VALUE OF STAFF HAS BEEN CALCULATED WITHOUT TAKING INTO ACCOUNT THE PENSIONARY BENEFIT.**

- **SAVINGS WILL FURTHER INCREASE IF WE FACTOR IN PENSION AND PAY HIKES.**

ROLLOUT OF THE SCHEME

- **THIS SCHEME HAS ALREADY BEEN IMPLEMENTED IN TWO DIVISIONS i..e DNR AND SEE W.E.F. 01.11.2015 AND IS RUNNING SMOOTHLY TILL DATE**

- **THE COMPREHENSIVE IMPLEMENTATION WILL BE FROM 01.12.2015 IN ALL THE FIVE DIVISIONS OF ECR.**

- **THIS SYSTEM HAS BEEN DULY SENSITIZED TO DRMs & ALL CONCERNED EXECUTIVE COUNTERPART.**

- **IF WE TAKE THE NET ANNUAL SAVING FOR THE BALANCE PERIOD OF 2015-16 I.E. FOR 4 MONTHS IT WILL BE RS.2.64/3 = RS.88 LAKHS AS THE EXPENDITURE WILL BE RS.1.10 CRORE AND THE SAVINGS WILL BE RS.1.98 CRORE.**

THE WAY AHEAD

- **WE INTEND TO DISPENSE WITH THE SYSTEM OF DIVISIONAL CASH OFFICE**

- **SWITCH TO A SYSTEM OF SENDING NON-CASH VOUCHERS TO TRAFFIC ACCOUNTS OFFICE DIRECTLY**

- **THIS MAY INVOLVE MODIFICATION OF RULES**

- **THIS WILL ALSO FACILITATE THE RELEASE OF THE CASH OFFICE SPACE FOR GAINFUL UTILIZATION AND MAKE PROPOSED SYSTEM VERY SLEEK**

OTHER BENEFITS

- **THE STAFFS RELEASED FROM ACCOUNT & OTHER DEPARTMENTS WILL BE SUITABLY UTILIZED IN OTHER ACTIVITIES**

- **CASH IN TRANSIT POSITION WILL BE ALMOST NIL ON MONTHLY BASIS.**

- **THE STATIONS WILL BE FREE FROM CASH DETENTION ISSUES WHICH HAS ALWAYS BEEN A SECURITY CONCERN ON ECR**

- **CASH SAFE MANAGEMENT ISSUES WILL BE ABOLISHED.**

THANKS

EASTERN RAILWAY

Presentation on scope of study for review of electricity consumption (Traction & Non-Traction) with a view towards possible reduction in expenditure.

Industrial Electricity Tariff

The Tariff has two parts :

- **Contract Demand (KVA)**

&

- **Actual energy consumption (KWH)**

Contract Demand(CD)

- Projected Maximum Demand in peak hours of a section against FP/TSS.
- Agreements made with supply authority on CD.
- Maximum Demand(MD) recorded on the basis of Demand in peak hours during any day during the month.
- Payment made against MD.

Energy Charges vis-a-vis CD

- Payment made against actual consumption of energy (in kwh) & Maximum Demand arrived during a month.
- Normally actual power consumed is less than the maximum power that can be consumed as per projected CD.
- It is resulted in low utilisation factor.

Penalties

- When maximum demand (actual) > CD → (110%).
- When average of demand < Optimum limit of CD fixed by the service provider (e.g 85% by WBSEB) → payment as per CD fixed.
- Lower CD = greater risk of payment of penalty in case of spike in demand.
- But, Lower CD = reduction in Electricity Tariff and increase in %age utilisation factor.

Actual usage of Energy with reference to CD (Traction)

FP/TSS	Source of Supply	Contract Demand in MVA	Consumption in kwh	Actual consumption in Kwh	%
SDAH Divn					
Titagarh	Titagarh GSS (WBSEDCL)	25	17112000	9151000	53.48
BARASAT	BARASAT GSS (WBSEDCL)	11	7611120	3619000	47.55
Cossimbazar	Cossimbazar/ TSS	3.5	2551920	921000	36.09
Ranaghat	Ranaghat/TSS	12	8124480	4376000	53.86
LKPR	FP/TSS	10	7068000	3378000	47.79

Actual usage of Energy with reference to CD (Traction)

FP/TSS	Source of Supply	Contract Demand in MVA	Consumption in kwh	Actual consumption in Kwh	%
HWH Divn					
BELMURI	BELMURI GSS (WBSEDCL)	18	12454560	5915720	47.50
DANKUNI	LLH/Rishra GSS(WBSEDCL)	11.5	8384880	3120000	37.21
Dhatrigram	WBSEDCL	5	3645600	1299000	35.63
Bardhaman	DVC	22	15876960	6030000	37.98
Liluah	WBSEDCL	22	14240160	7671000	53.87

Actual usage of Energy with reference to CD

(Traction)

FP/TSS	Source of Supply	Contract Demand in MVA	Consumption in kwh	Actual consumption in Kwh	%
ASN Divn					
DTPS	TSS/FP	25	17856000	7903000	44.26
KMME	TSS/FP	20.5	14031840	6794000	48.42
JMT	TSS	12	8749440	2529840	28.91
SNQ	TSS	12.5	8928000	3195360	35.79

Actual usage of Energy w.r.t. CD (non-traction)

FP/TSS	Contract Demand in KVA	Consumption in kwh	Actual consumption in Kwh	%
SDAH				
Sonarpur car shed	200	136896	45192	33.01
Kalyani Rly stn	75	54684	8701	15.91
Ranaghat East colony	200	147312	25875	17.56
Gede stn	85	62607.6	9474	15.13
Krishnapur Rly stn	75	55242	18430	33.36

Actual usage of Energy w.r.t. CD (non-traction)

FP/TSS	Contract Demand in KVA	Consumption in kwh	Actual consumption in Kwh	%
HWH				
Nabadwipdham Rly stn	119	84994.56	43262	50.90
Pakur Rly stn	434	316438.08	60960	19.26
Bamungachi Benaras Rd	650	479731.2	159418	33.23
FP	1050	742140	145568	19.61
Rly Museum	1000	706800	383030	54.19

Actual usage of Energy w.r.t. CD (non-traction)

FP/TSS	Contract Demand in KVA	Consumption in kwh	Actual consumption in Kwh	%
ASN				
Sitarampur Rly stn	470	304221.6	164263	53.99
Kalipahari Rly stn	95	63612	12792	20.11
Andal Rly stn	2100	1499904	755400	50.36
Panagarh Rly stn	185	132134.4	36330	27.49
Gede stn	85	62607.6	9474	15.13
Krishnapur Rly stn	75	55242	18430	33.36

Comparative position of physical and financial (ER) of Electricity Bill.

	Traction			Non Traction		
	Physical (in kwh)	Financial (in Crs of Rs)	Rate derived	Physical (in M.U)	Financial (in Crs of Rs)	Rate derived
Act 13-14	899738	594.98	6.61	*207.30*	155.99	7.52
Act 14-15	920371	656.37	7.13	204.13	161.01	7.89
Growth (%)	2.29	10.32	7.84	-1.53	3.22	4.82
Upto Sept'14	470261	322.43	6.86	111.67	82.55	7.39
Upto Sept'15	483192	322.21	6.67	108.23	81.20	7.50
Growth (%)	2.75	-0.07	-2.74	-3.08	-1.64	1.49

The preliminary study reveals :

- Actual utilisation factor/load factor with reference to Contact Demand for traction power varies from 28.9% to 53.8%.
- Actual utilisation factor/load factor with reference to Contact Demand for Non traction power varies from 15.13% to 54.19%.

The scope of study:

- Hence, it has been concluded to conduct a detailed study on Contract Demand and actual utilisation of Power on FP/TSS basis in close liaison with Electrical & Operating Departments for fixing up contract demand realistically to avoid NIL/less penalty for achievement of Savings on Electricity Bills.
- Rationalisation of Load Factor/ future utilisation by merging contagious TSS/FPs.
- For non-traction electricity use of renewable source of energy as alternative vis-a-vis cost analysis of the same.

The scope of study

- To approach Zonal Electricity Regulatory Authority for introduction of seasonal /time based contract demand for reduction in tariff on account of contract demand.
- for new electrification projects TSS & GSS should be in a nearby area in order to reduce transmission loss resulting reduction in tariff.

Thank You

Welcome

Presentation on Expenditure Control and Augmentation of Earnings in Indian Railways

Opportunities for Expenditure Control (Production Units)

- Reduction of daily working hours to 6 hours instead of 8 hours without affecting the incentive payment
- Production units and Workshops shift timings to be adjusted to avoid night duty allowance

(More ....)...

- This will result in savings around ₹9.6 Crores per annum (For ICF)
- Elimination of Time offices

(More ....)...

Opportunities for Expenditure Control (Production Units)

- One build one design for Production units
  - Standardization
  - Bulk procurement possible
  - Effective Storage
  - Maintenance will be easier for zonal Railways
- Review of Outsourcing
  - Estimate should be based on actual staff deployed/payment

Opportunities for Expenditure Control (Common)

- Outsourcing of security of production units, workshops and Office premises where the entire area is within closed fence.
- The statistical branch performing data compiling activities to be decentralized
- Last mile computerization to be completed to reap full benefits
- All printing activities to be eliminated
- Procurement of all forms of pre-printed, 132 column, Carbon multi-ply stationary to be minimized

Opportunities for Expenditure Control (Common)

- Periodicity of POH of wagons to be extended from 12 to 18 months
- S&T Workshops, Engineering (Bridge Workshops) and Printing press can be brought into single shift operation
- Printing press activity to be totally outsourced (wherever required) gradually and staff redeployed

Opportunities for Expenditure Control (Common)

- Usage of CDs, Web reports and Soft copies in place of papers and files
- Printing of newsletter and other journals to be avoided and can be published electronically in Websites/CDs etc
- Policy on AMC to be reviewed – Options like need based maintenance to be explored
- Options like extended warranty until codal life for Computers etc., so that AMC can be avoided

Opportunities for Expenditure Control (Common)

- Complete switch over to NEFT for all kinds of payments
- Single wage period and payment cycle for all employees
- On-board accompanying personnel on train should be reviewed
- Platform checking of reserved tickets: to begin with overnight/Rajdhani/Duranto trains
- Review of berth allotment to TCs

Opportunities for Expenditure Control (Common)

- Moratorium on construction of utility buildings
- Review of advanced reservation facilities at Railway stations – options for outsourcing to be explored
- Paperless tickets
- Provision of bed-roll need to be relooked.

Opportunities for Augmentation of Earnings

- Station Premises should be identified for commercial exploitation instead of occupation by Railway.
- Main platform to be rented out to ATM/other commercial activities by shrinking Railway Activities to other platforms
- Earnings through parking by introducing automatic parking system.

Opportunities for Augmentation of Earnings

- Sur-charge on tickets for major stations (highly facilitated stations should have added sur-charge)
- Differential charges for Platform tickets based on category of stations
- Waiting period at platform to be regulated and charges to be levied for extra time based on the arrival of train.

Opportunities for Augmentation of Earnings

- Restructuring of fare for residual journey (day time) and residual distance (last leg and first leg of journey)
- Removing constraints on advertising and making it single window
- Existing utility buildings to be considered for renting outside
- Increase in average speed of trains


Thank you!


Thank you!


Thank you!

Expenditure on Time offices in PUs/WS

Provision as per Mechanical Code	Practice in vogue
Each workman will record his daily attendance two times in the first work period and again two times in the second work period in the Gate Attendance Card (W-220) with the aid of Time Recording Clock	Attendance is not recorded using Time recorders
The workmen corning late after 3 minutes but up to half an hour in the first period will be treated as late by half an hour in that period and should lose wages only for half an hour.	Late attendance is not captured.
The process of supervising punching 'IN' and 'OUT' is the responsibility of the chargeman under the direction of the shop Supdt. The Chargeman deputed for supervising punching who should be assisted by Time Clerks should ensure that each workman punches his own card and does not punch more than one attendance card.	Since clock punching is not happening though 'Early/Late duty' are booked the supervision is not actually carried out

(1/5) Back

Expenditure on Time offices in PUs/WS

- Physical absences (PA) reported by Shop supervisors is the base for attendance
- System of Negative time management is followed in which salary claim is based on Leave transactions
- If no leave/PA is posted it is assumed that the employee is present

(2/5) Back

Expenditure on Time offices in PUs/WS

- GA cards are not punched since punching clocks are removed long back
- Late attendances are not registered for more than a decade
- Time clerks are posting leave/attendance on the GA cards (redundant activity) in addition to attendance register

(3/5) Back

Expenditure on Time offices in PUs/WS

- In order to eliminate redundant work it is proposed that use of GA cards could be done away
- The following advantages are seen:
  - Savings in GA cards (Pre-printed) stationery
  - Reduction/Elimination of Time office work
  - Elimination of clock duties to supervisors and time office

(4/5) Back

Expenditure on Time offices in PUs/WS

- Details of payment made to time office staff in ICF is as below:

Designation	Count	Salary (per month in Rupees)
Chief OS	18	11,21,577.00
Office Supdt.	68	38,88,926.00
Senior Clerk	9	3,29,388.00
Junior Clerk	2	48,249.00
Peon	2	41,974.00
Total	99	54,30,114.00

(5/5) Back

Expenditure on Night Duty Allowance

- Two major working shifts are followed in ICF for workshop staff
  - Day shift from 7:00 to 16:30
  - Night shift from 17:00 to 02:45
- Night duty allowance is paid for the period between 22:00 to 02:45 hrs
- Presently, each hour of night work earns extra ten minutes of day work.

(1/6) Back

Expenditure on Night Duty Allowance

- Total expenditure on Night Duty hours during October 2015 is as below:
  - 2.76 Lac Hours
  - ₹ 80.41 Lacs
- There are other indirect expenditures owing to night working like Electrical energy for lights and other equipments, Payment to Supporting staff like RPF, Electrical, Engineering etc

(2/6) Back

Expenditure on Night Duty Allowance

- It is observed that employees are not working actually in night shift
- The actual work is completed in the first half of the Night shift (5 to 10 PM)
- Thus the expenditure on Night duty allowance becomes questionable

(3/6) Back

Expenditure on Night Duty Allowance

- It is proposed to eliminate payment of Night duty allowance by
  - Booking all staff on day shift only since the actual work is done in day shift timings
  - Adjusting the shift timings to fall within day period i.e., between 6:00 AM to 10:00 PM
  - Reduction in shift time from 8.6/8.75 to 6.0 hrs

(4/6) Back

Expenditure on Night Duty Allowance

- Similar control on Night Duty allowance can be taken all over Indian Railways
- A statistics on staff count in Railways and Workshops is presented below:

Railways	Count
Central	40034
Eastern	45422
East Central	13106
East Coast	9683
Northern	50809
North Central	8659
North Eastern	15605
NE Frontier	19031
North Western	15035
Southern	35232
South Central	19202
South Eastern	18499
SE Central	8420
South Western	9575
Western	19286
West Central	15824
Total	343422

Rly. Work shops	Count
CLW	8212
DLMW	2702
DLW	3164
ICF	8912
RWF	1644
RCF	5266
RB etc	5266
Total	35166
G.Total	378588

(5/6) Back

Expenditure on Night Duty Allowance

- It is time, the control on Night duty allowance is applied allover Indian railways since:
  - Introduction of 7th Pay commission will increase the expenditure on NDA
  - Reduction in Night duty allowance is not expected to reduce the take home pay (earning capacity) of an employee, owing to increase in other elements like Pay, HRA etc.

(6/6) Back

Initiatives taken by Metro Railway to reduce energy consumption

▪Solar Energy initiatives and various Energy Efficiency measures have been taken by Metro Railway, Kolkata, to reduce consumption of conventional energy which in turn, reduces expenditure on electricity bills.

Activities undertaken :-

- **Installation and commissioning of Roof Top Solar Plants.**
- **Installation and commissioning of Solar Water Heater.**
- **Energy Efficiency measures.**

1 Solar Power Plant

20 3-STATION

One **10 kWp Solar Power Plant** at a cost of Rs.19 lakhs and another **20 kWp** at a cost of Rs.38 lakhs have been commissioned in Metro Railway Kolkata. These two plants have generated **23,326 Units** energy reducing energy bills by Rs.**1,60,700** during F.Y 2014-'15.

2 Solar Water Heater

300 l
CAR

One **300 ltrs/day** capacity Solar Water Heater has already been commissioned at a cost of Rs. 60 thousand.

This plant has saved **3000 Units** energy and Rs **20,500** in energy bills during F.Y 2014-’15 (approx.).

3. Provision of VVVF Drives

VVVF DRIVE INSTALLED AT SHYAMBAZAR – SHOVABAZAR MID POINT

90 M^3/ SEC CAPACITY MID POINT EXHAUST FAN AT SHYAMBAZAR – SHOVABAZAR

1) A total of 81 large capacity (ranging from **55** to **110 kW**) ventilation fan motors have been installed at a cost of Rs. 45 lakhs in Metro Railway Kolkata for ventilation of **15.67 kms.** long tunnel section. Originally these motors were provided with conventional star-delta starters.
2) To improve energy efficiency of these motors, it has been planned to replace conventional starters with Variable Voltage Variable Frequency (VVVF) drives which will provide facility of controlling motor speed as per requirement consuming less electrical energy. Nine Ventilation fan motors have already been provided with VVVF drives and six have been planned during F.Y 2015-'16.

This initiative has resulted in significant savings of **1.2 Million Units** energy and **Rs 0.84**

4. Provision of LED Tube lights

LED LIGHTING at SHYAMBAZAR METRO STATION

- There is a substantial lighting load in office and station buildings of Metro Railway.
- Adoption of energy efficient luminaries can conserve sizeable amount of electrical energy, thereby reducing energy bill.
- LED Tube Lights consumes less power as against T8 Tube Light fittings and have longer life.
- **8,000** existing **T8** Tube lights (**36 Watts**) are planned to be replaced by **LED** Tube lights (**19 Watts**) in Metro Railway at a cost of Rs. 1 crore 90 lakhs. Out of which **6,622** T8 existing Tube lights have already been replaced by LED Tube lights, and balance 1,378 more T8 Tube lights are planned for replacement during F.Y 2015-16.
- This initiative has resulted in savings of **0.83 Million Units** energy and Rs **0.57 crs**. / year

5. Provision of T5 Tube lights

✓10,000 T8 Tube lights (36 Watts) have been replaced by T5 Tube lights (28 Watts) at a cost of Rs.80 thousand.

✓This has resulted in energy savings of about **0.5 Million Units** and reduction of Rs **0.34 crs.** in energy bills (approx) annually.

6. Use of Star Rated Electrical Equipment

✓Only 4 / 5 star rated Energy Efficient electrical equipment like Split Air-conditioners, Geysers and Pumps are being procured.

Activities in Progress

1. **Solar Power Plant**

   Action is being taken for installation of additional Solar Power Plants of total **620 kWp** capacity.

2. **LED lights**

   Rabindra Sadan and Rabindra Sarobar stations shall be provided with 100% LED light fittings replacing existing T8 Tube lights inside the stations and conventional outdoor light fittings outside the stations.

3. Provision of VVVF Drives

Work for replacement of six more conventional drives of large capacity tunnel fan motor has already been sanctioned and proposal for replacement of balance 66 drives of all large capacity tunnel ventilation fan motors by VVVF drive at an estimated cost Rs 4.77 crs. has been sent to Railway Board for sanction in FY 2016-’17.

4. Rolling Stock with 3-phase technology and regenerative braking

➢ All new metro rakes will be provided with 3- phase technology and 3-phase induction motors. In the existing Metro rakes, DC motors are used. (Order for 14 new rakes has been placed on a Chinese firm and for another 2 rakes order has been placed on ICF).

➢In DC motors during braking energy is wasted in the resistors which results in loss of energy and generation of heat.

➢ The equipment driven by three phase technology can operate with power factor close to unity.

➢Due to improved power factor and regeneration, energy savings to the tune of **20 to 30%** can occur on account of regeneration, resulting in reduction of energy bills.

5. Provision of energy efficient LED based lights in kolkata metro coaches

Kolkata Metro rakes planned to be provided with latest developed energy efficient LED based high efficient luminaries as per RDSO guide lines.Luminaries have got following **advantages**:

- ✓ Improve the level of illumination in coaches and at the same time passengers comfort level.
- ✓ Will save energy almost by 50 % comparing to the existing fluorescent lights. This will result in approx. Savings of Rs. 20 lakhs per annum.
- ✓ Moreover this LED efficient luminaries have higher burning life as compared to the existing fluorescent lights. As such life will be increased by about three/four ftimes.
- ✓ Type of fittings in coaches have the unique simple arrangements in its circuitry, which is maintenance free also and thus will reduce man-hours needed for maintenance almost by **80%**.

With these advantages, it has already been planned to provide such LED based luminaries in all Metro coaches within the next six months i.e by April 2016.

One rake will be provided with such LED based high efficient luminaries on trial basis by December 2015.

- **Problems faced :-**

  i) Paucity of fund in PH-36/CAP to undertake works

  ii) Due to constraint of availability of suitable vacant land, setting up of large capacity Solar Power Plant in Metro Railway Kolkata is not feasible.

- **Suggestions :-**

  i) Availability of adequate funds to undertake works related to energy saving

  ii) Sanction of proposal for **provision of VVVF Drive for large capacity ventilation fans to save energy** sent to Railway Board in PWP 16-'17.

  iii) Available roof space has been communicated to Railway Board to sanction suitable roof top plants for Metro Railway. Two 50 kWp Solar Power Plants has been sanctioned so far and planned for commissioning during F.Y 2016-'17 at Noapara and Dumdum respectively.

FUEL OTHER THAN TRACTION

Expenditure to end of the month		Budget Proportion	% Variation of actual Exp. over BP
Month	Expenditure		
NOVEMBER'14	27.08	23.62	14.65
DECEMBER'14	31.11	25.89	20.16
JANUARY'15	32.92	27.97	17.7
FEBRUARY'15	34.42	29.8	15.5
MARCH'15	35.79	31.64	13.12
APRIL'15	1.9	2.85	**-33.33**
MAY'15	4.63	6.51	**-28.88**
JUNE'15	8.1	9.59	**-15.54**
JULY'15	11.43	12.91	**-11.46**
AUGUST'15	14.58	16.36	**-10.88**
SEPTEMBER'15	17.96	20.23	**-11.22**
OCTOBER'15	21.3	23.89	**-10.84**

Savings in Non-Traction Energy Consumption in Metro Railway has been achieved by –

1. Provision of **LED Tube Lights (19 watts)** in place of **T8 (36 watts) Tube Light.**

2. Provision of **T5 Tube Lights (28 watts)** in place of T8 Tube Light.

3. Provision of **VVVF Drives** in place of Conventional Drives.

4. **Optimization** of Running time of Centralized AC Plants in underground stations as per ambient temperature.

5. **Installation** of **Solar Power Plants** and **Solar Water Heater**.

- Energy audit has been planned at seven places in Metro Railway namely Noapara, Shyambazar , Esplanade ,Metro Bhawan etc.

  The tender for selection of Bureau of Energy Efficiency (BEE) acredited Energy Auditors is under finalization.

- Reduction in Energy consumption to the tune of 0.87million units (in KWH) has been achieved as a result of measures already taken during October 2015 as compared to the corresponding period of last year

- This has resultant in a saving of Rs.61 Lakhs.


THANK YOU

Monetizing Real Estate Resources in NER - Potential, Problems & Remedies

Dr. Ram Chandra Rai

FA&CAO/NER

Monetizing Real Estate Resources- The Potential

S. N.	Resource	Unit	Quantity	Rate (Estimated) (in Rs.)	Potential (Rs. in Cr)
1	Land	SQM	1642785	360	59.15
2	Buildings	SQM	12853	400	0.51
3	Shops	SQM	342846	450	15.43
4	Others	SQM	17330	360	0.62
	Total		**2015814**		**75.71**

Monetizing Real Estate Resources- The Potential

- **Above excludes the earning potential from followings.**

➢ Land along track and roof tops of buildings/plate forms/other structures can be leased out to solar power manufacturing companies through competitive bidding for installing and production of solar power.

➢ Almost all railway stations have potential of additional earning through commercial publicity as per local conditions and exploitation of real estate including vacant land not leased out, which can be developed as per local demand.

- **Earning potential of above needs to be assessed separately and as such potential will be much more than Rs. 75 crore.**

Monetizing Real Estate Resources- Problems

Actual billing as per current policy

Year	Amount Billed (Rs. in crore)
2010-11	3.27
2011-12	3.31
2012-13	2.39
2013-14	2.69
2014-15	2.64

- Payment at old rates or non-payment by parties due to litigations and stays from courts against revision of rates by Board from retrospective effect in the year 1995 vide Board's letter No. 83/W2/LM/18/87 dated 29.08.1995 w.e.f. 01.04.1986.

Monetizing Real Estate Resources- Problems

- 48 court cases being contested by NER causing wastage of manpower and non recovery of dues at current rates.
- Billing being done regularly by Divisions/other units as per applicable rates but recovery being made at old rates due to stay from courts leading to increase in closing balance. The extent of less recovery is about 63% depending upon cases under litigation.
- Consequent increase in traffic suspense.

Monetizing Real Estate Resources- Problems –contd.

- NER facing serious difficulties in achieving the target of reduction in traffic suspense-target of Rs 2 crore assigned each year not being achieved due to less recoveries.
- Absence of agreements in majority of the cases as parties are unwilling to sign agreements due to non-resolution of disputes in terms & conditions.
- Current terms & conditions heavily loaded towards Railways which is being contested by parties who are of the view that rates should be revised with mutual consent by giving due notice and should be applicable with prospective effect.

Monetizing Real Estate Resources- Problems –contd.

- Lack of title documents of land/plots duly authenticated by competent revenue authorities making case of Railway weak in courts.
- No site map with clear boundary of plots etc. available with engineering dept.
- Large number of cases of subletting of shops.

Monetizing Real Estate Resources- Problems –contd.

- NER region being industrially underdeveloped area- hence lesser commercial potential in comparison to other zones.
- Slow disposal of cases by Estate Officers who are civil engineers having conflict of interests.
- Difficulty in getting plots/building vacated due to court cases/stays even in case non-payment or lesser payment of rent/lease charges even with prospective effect.
- Collusion of lower level staff of engineering/ commercial department.
- Encroachments on land.

Monetizing Real Estate Resources- Remedies

- Need of one time exemption from Board for out of court settlement of disputes related to rates as well as date of application by a empowered committee.
- Waiver of amount billed but unrealized even after proposed settlement .
- Rationalization of model concession/ lease agreements making them balanced one after comprehensive consultation with all stakeholders.
- Migration to market determined rates.

Monetizing Real Estate Resources-

Remedies–contd.

- Need to launch a special drive for conducting census of land, building and shops, title verification, preparation of maps and title documents, signing of agreements and recovery of old dues under close supervision of Board.
- Introduce system of open bidding for leasing of plots/shops and building space in place of present system of charging 6% of circle value with annual escalation to maximize the earning.
- Provision of fixed time tenure and re-bidding thereafter to capture benefit of changes in prevailing market rates.
- Creating special real estate cell headed by a SAG officer. This post should be ex-cadre and should report directly to AGM/GM to resolve the problem of collusions and conflict of interests.

Monetizing Real Estate Resources- Remedies–contd.

- Streamlining the institution of Estate Officer for quick disposal of cases.
- Conduct of periodical market survey by professional agency to ascertain current market rates from time to time. A competent consultant can be hired by each railway to map the earning potential keeping in view the local conditions.
- Provision to get the plots/buildings/shops vacated when needed for use by Railway or in case of breach of terms and conditions or non-payment.
- Provision of heavy penalty for overstaying the tenure.

Thanks

Presentation of
Northeast Frontier Railway
on
Recovery of Electric Bills of Staff Quarters

STUDY on NON-RECOVERY OF Electricity CHARGES From EMPLOYEES

- Exception Report has been generated to locate defaulters for non-realization of Electrical Energy Consumption Bills in Railway Quarters.

- 2766 cases have been detected in NF Railway where House rent were recovered but electricity charges were not realized from the employees for last 6 months.

- Total un-realized amount would be around Rs. 1.0Cr per annum considering a flat rate of Rs 300/- pm/per employee.

MIS REPORT ON ELECTRIC BILLS

- Unit-wise No of cases of non-realization of Electric charges are summarized as under:

Unit	No of Cases
HQ	126
LMG Div	875
KIR Div	613
APDJ Div	331
RNY Div	727
TSK Div	-
NBQ WS	58
DBRT WS	
GHY	36
Total	2766

- CEE /NFR has been requested to look into before putting upto GM/NFR for information.

FURTHER ACTION

- Studies to be followed up:

  - ❖ Cases of electric charge realized but House rent not recovered from employees.

  - ❖ Revision of Electricity tariff : Whether implemented/ realized from pay bills.

  - ❖ Tracking and ascertaining House rent and Electric recovery of all identified employees beyond 6 months.

  - ❖ Exception report to be generated each month along with pay bills on recovery of House rent and Electricity charges.

-
- Thanks

IPAS

Integrated Payroll and Accounting System

Components

Personnel Module	Financial Module
Payroll processing	Internal Check
Leave	Books
Loans & Advances	PF
TA	Pension
Income tax	Budget
Electricity	Suspense etc.
Quarter etc.	

Features:

- **Technology Level**
- **Security Level**
- **Trust Level**
- **Database level**
- **Application Level**
- **Interface with Other Applications**
- **Updation and Control Features**

Estimated Benefits - Financial

- Saving in honorarium over NR for
  - Accounts Office - Approx. Rs. 1.0 Crore per Annum
  - Pay Office staff – Approx. Rs.75 lakhs per Annum

- Saving due to man-hours & increase in efficiency
  - Cash Office – Approx. Rs.25 lakhs per Annum
  - TA office – Approx. Rs. 35 lakhs per Annum

Accrued Benefits - Works

- Generation of Work Wise Progress
- Generation of Up to date Work Registers
- Generation of Up to date Deposit Work Registers
- Generation of all suspense details
- Generation of Tax deductions Statement of Contractors

Time for Integrated Solutions

- Era of Enterprise wide solutions
- For Railways – not practical at present
- Hence – Function wise solutions
  - IPAS
  - PMIS, HRMS
  - ICMS, FOIS, COA
  - CMS

Segmentation - Undesirable

- Within each Function wise solution, Segmentation an undesirable idea
  - Duplicity of effort
  - Higher maintenance cost
  - Non-uniformity
  - Decentralised data
  - Segmented, incompatible reporting patterns
  - Multiple databases
  - Recurring maintenance pay-outs in large quantum

An IT Vision for IR

- 3 Years -
  - Seamless Integration of all stand alone software solutions
  - One database to be maintained centrally at CRIS, to be accessible to all applications

- 5 years –
  - All data to be available on real time basis
  - All future development to evolve around a concentric Core

Need of the Hour

- Adoption of One system - Subsuming all other systems
- Centralised management of Hardware and Software
- Software solution to provide for Accrual Accounting
- Communicating with all Railways
- Leveraging web based technology
- Centralised, immediate adoption of new rates and rules

Presentation by

FA & CAO

RAIL COACH FACTORY

KAPURTHALA

Complete switch over to manufacture of LHB Coaches at RCF Kapurthala

Salient Features

LHB Coach

over

Conventional coach

Coach Designs manufactured at RCF

- Two broad designs
  - Conventional ICF type
  - LHB Coach

- Each design type has variants like:
  - AC-I, II, III, Chair Cars,
  - Non AC Sleeper etc.

Features of LHB Coach

- Higher Codal Life:-

  LHB coaches have codal life of **35** years whereas Conventional coaches have **25** years of codal life.

- Higher Carrying Capacity:-

  These coaches are about **1.7** meter longer than Conventional coaches. This facilitates two additional rows of chairs in chair cars or one additional bay in sleeper coaches thus increasing revenue.

- Better Pay to Tare Ratio

  LHB coaches weigh approximately **10%** less than corresponding conventional coaches resulting in saving in haulage cost.

- Low corrosion :

  Low corrosion due to extensive usage of Stainless Steel, better design and manufacturing techniques.

Features of LHB Coach

- High Speed :-

  Designed for a speed of 160 km/h with possibility of increasing the speed to 200 km/h.

- Low Maintenance cost :-

  Maintenance schedule of LHB v/s Conventional coaches

Coach	IOH	POH
Conventional	2 lac Km	4 lac Km
LHB	5 lac Km	10 lac Km

so by the time an Conventional coach is over hauled 2 times, an LHB coach can still travel 1 Lac km extra. Thus ensuring better availability and reduction in maintenance cost.

LHB coach offers:

Better passenger safety due to :

- Use of fire retardant materials for furnishing.
- Provision of emergency openable windows.
- Centre Buffer couplers, vertically interlocked.

Better Passenger Service due to :

- Better riding index.
- Provision of more space for pantry
- Individual reading light in chair car
- Ergonomically designed chairs with reclining back rest. (seat bottom sliding feature provided additionally for Executive Class Chairs)

LHB v/s Conventional
Weight and Capacity (Rajdhani Rake)

Coach Type & no. of Coaches per rake		Per Coach				for Full rake			
		Weight (ton)		Capacity (Berth)		Weight (ton)		Capacity (Berth)	
Type	No.	LHB	Conv.	LHB	Conv.	LHB	Conv.	LHB	Conv.
1A	1	43.3	46.2	24	18	43.3	46.2	24	18
2A	4	44.6	44.8	52	46	178.4	179.2	208	184
3A	7	45.6	48.3	72	64	319.2	338.1	504	448
Pantry Car	2	40.9	47.9	0	0	81.8	95.8	0	0
Power Car	2	53.0	60.0	0	0	106.0	120.0	0	0
Total						728.7	779.3	736	650

LHB Rake weighs less by 50.6 t

Capacity more by 86 passengers

Complete switch over

Manufacture of LHB Coaches at RCF Kapurthala

MANUFACTURE OF LHB DESIGN COACHES AT RCF

Contracts with Alstom LHB

- Indian Railways entered into Supply and Technology Transfer contracts with ALSTOM LHB, Germany, in October 1995, at the cost of DM 2.09 crore (`46.92 crore).
- As part of Supply Contract, M/s. ALSTOM LHB, Germany supplied 24 coaches consisting of

  - 19 Second Class AC chair cars
  - 2 AC Chair Cars and
  - 3 Generator cum brake vans.

Complete switchover to manufacture of Stainless Steel LHB coaches

- Manufacturing Capacity :
  - Switchover completely to manufacture of 1500 stainless Steel LHB coaches by 2018-19. (As per Rly. Bd. letter no. 2015/M(PU)/1/ Dt. 17.06.2015)
  - Projects sanctioned to enhance the capacity to manufacture of 1500 Stainless Steel LHB Coaches.

Projects Sanctioned for augmentation of LHB coaches

(` in Crore)

S. No	Name of Work	Sanctioned Amt.	Actual Expenditure
1	Setting up of Wheel Shop at RCF.	65.24	64.51
2	Complete Switch Over to LHB Stainless Steel Coach Production & Enhancement of Capacity 1400 to 1500 Phase -I	55.32	49.80
3	Bogie Manufacturing Factory, Budge Budge, Kolkata	93.99	83.87
4	Complete Switch Over to LHB Stainless Steel Coach Production & Enhancement of Capacity 1400 to 1500 Phase -II	130.24	8.15
		344.79	**206.33**

Production in RCF over the years

Coach Type	2013-14		2014-15		2015-16 (Target)		2016-17 (Target)	
	Coach	EGS *	Coach	EGS	Coach	EGS	Coach	EGS
Conventional	1166	1359.35	1130	1363.44	1005	1197.22	850	952.52
LHB	387	1029.19	350	891.58	543	1167.32	650	1586.67
Total	1553	2388.54	1480	2255.02	1548	2354.54	1500	2539.19

* EGS - Equated GS coach Units

Plan for manufacture of 1500 LHB Coaches

Year	Coaches			Existing man power capacity
	Conv.	LHB	Total EGS	
2016-17	850	650		With the existing manpower RCF can manufacture only 1100 LHB coaches (2695 EGS) .
2017-18	300	1200	3353.38	
2018-19	--	1500	3729.25	

EGS – Equated GS coach unit
Conversion factor : 1LHB = 2.4 EGS (avg.)
1 Conv. Coach = 1.20 EGS (avg.)

- To achieve the production level of 1500 LHB coaches additional manpower of 1540 staff is required

Additional Investment Required for Complete Switchover

- Additional Man power:

  To achieve the production level of 1500 LHB coaches additional manpower of 1540 staff is required, *Proposal for creation of 1089 posts has already been submitted to Rly. Bd. in 2012.*

  Impact of wages and incentive payments per annum will be as under:

  (i) Impact of Wages = `73.16 crore

  (ii) Impact of Incentive = ` 20.79 crore

- Additional M&P :

  M&P worth ` 149 crore required, out of which

  (i) M&P worth ` 91 crore already sanctioned.

  (ii) M&P worth ` 58 crore is required to be sanctioned.

Earning LHB v/s Conventional Coach

Assuming the coach runs for 1000 km per day

RAJDHANI EXP.

Coach Type	Seating Capacity		Fare *	Earning per trip of 1000 km (` in lac)		Earning for life span (` in crore)		Extra earning on LHB Coach (` in crore)
	LHB	Conventional		LHB	Conventional	LHB 35 yrs	Conventional 25 yrs.	
1A	24	18	3,362	0.81	0.61	98.84	52.95	45.89
2A	52	46	1,949	1.01	0.90	124.15	78.45	45.70
3A	72	64	1,352	0.97	0.87	119.25	75.71	43.53

* Source :- Fare Tables for Trains at a Glance 2014-15

Earning LHB v/s Conventional Coach

Assuming the coach runs for 1000 km per day

Coach Type	Seating Capacity		Fare (` in units)	Earning per trip of 1000 km (` in lac)		Earning for life span (` in crore)		Extra earning on LHB Coach (` in crore)
	LHB	Conv.		LHB	Conv.	LHB 35 yrs	Conv. 25 yrs.	
MAIL/ EXP. TRAIN								
1A	24	18	2,940	0.71	0.53	86.44	46.31	40.13
2A	52	46	1,708	0.89	0.79	108.80	68.75	40.05
3A	72	64	1,172	0.84	0.75	103.37	65.63	37.74
SHATABDI EXP.								
EC	56	46	2,394	1.34	1.10	164.23	96.36	67.87
CC	78	67	1,063	0.83	0.71	101.57	62.32	39.25

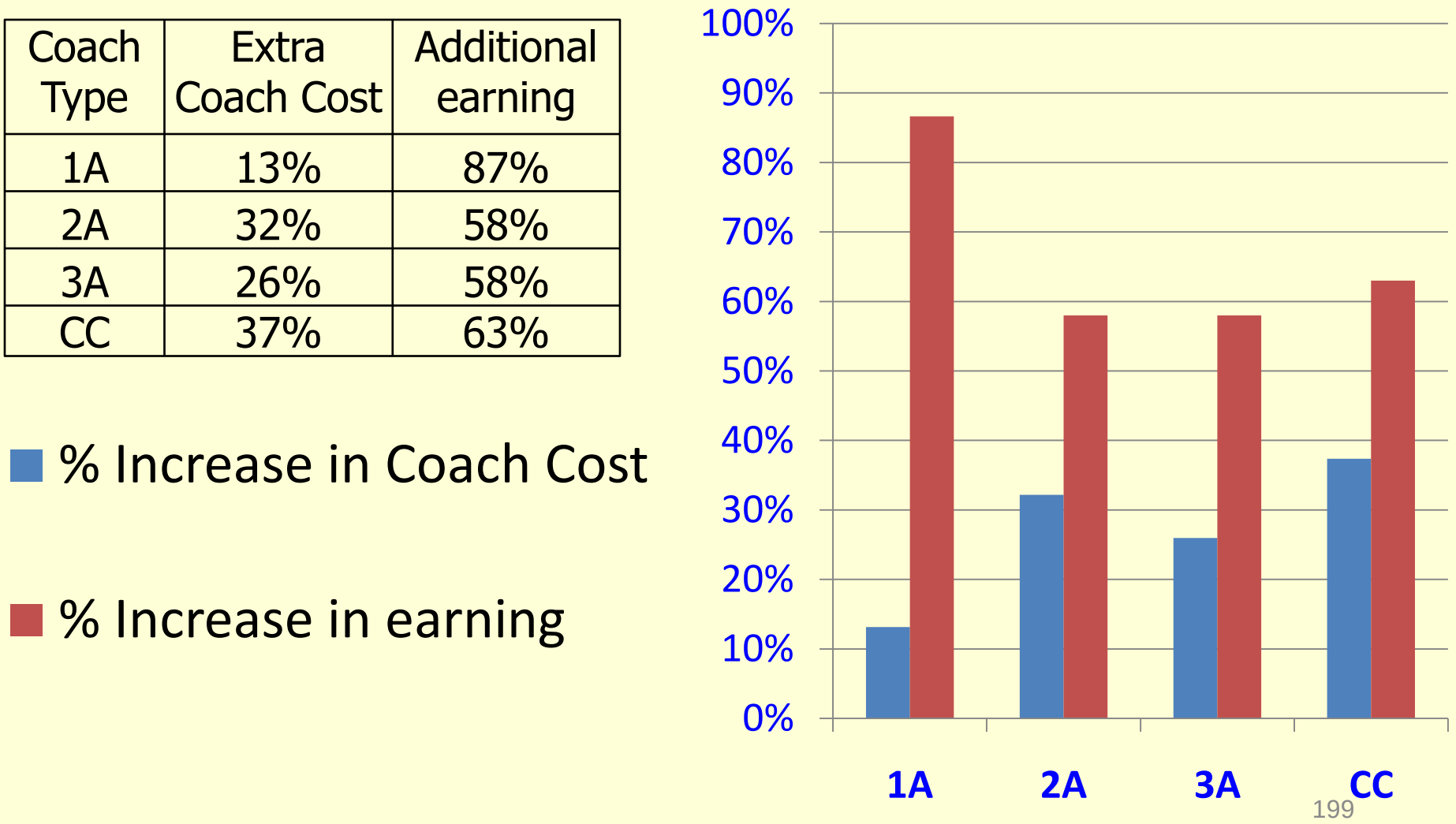
Investment v/s Earning

(` in crore)

Coach Type	Coach Cost		% Cost LHB over Conv.	Earning for life span (` in crore)		Extra earning on LHB Coach (` in crore)	% Earning LHB over Conv.
	LHB	Conv.		LHB 35 yrs	Conv. 25 yrs.		
1A	2.15	1.90	13%	86.44	46.31	40.13	87%
2A	2.30	1.74	32%	108.80	68.75	40.05	58%
3A	2.28	1.81	26%	103.37	65.63	37.74	58%
CC	2.28	1.66	37%	101.57	62.32	39.25	63%

Investment v/s Earning

Coach Type	Extra Coach Cost	Additional earning
1A	13%	87%
2A	32%	58%
3A	26%	58%
CC	37%	63%



Benefits accrued due to switch over to LHB Coaches

Complete switch over to manufacture of LHB coaches will result into:

- Due to less variants of LHB coaches, variety of inventory items will be reduced, hence less inventory carrying cost.
- Ensuring easy availability of material for production.
- Reduction in tendering process.
- Reduction in preparatory time for change of Jigs & fixtures.
- Improvement in skill of workers.
- Improvement in manufacturing quality.
- Due to bulk purchase of lesser variants and more LHB spares for Zonal Railways, the purchase rate of material is likely to come down.
- maximum utilisation of Machine capacity.
- Lesser inventory of m/c spare parts.

❑ Reduction in overhead cost :-

All the above factors will result in reduction in overheads cost.

Assistance required from Rly. Board

- Production Plan
  - Production Plan from Railway Board should be received one year in advance.

- Review of Incentive scheme.
  - Incentive review to be finalised at the earliest TC sent to Rly. Board on 23/09/2015.
  - Base of Conversion factor to be redefined by taking LHB coach as base instead of GS.

- Time study
  - Time study for utilisation of M&P and material handling equipment procured after earlier review study.

THANK YOU

RDSO's Potential to be a Revenue Neutral Organisation

ED/Finance
RDSO
November 2015

Budgetary Position of last 15 years of RDSO
Demand-16

PLAN HEAD – 18 (Rly Research)

(Figures in crores of Rs.)

Year	(DRF, DF & OLWR)			
	OBA	FBA	Actual Expenditure	% variation over Last Year
2000-01	10.00	8.70	9.21	30.45%
2001-02	10.25	7.49	7.56	-17.90%
2002-03	20.00	7.80	7.59	0.42%
2003-04	10.00	3.86	3.70	-51.33%
2004-05	15.00	14.00	13.56	267.02%
2005-06	43.00	8.97	6.54	-51.79%
2006-07	61.00	32.85	32.60	398.53%
2007-08	60.00	21.11	19.80	-39.27%
2008-09	62.00	25.64	23.78	20.09%
2009-10	61.00	42.07	43.56	83.19%
2010-11	78.00	40.60	43.91	0.82%
2011-12	50.00	38.42	38.92	-11.38%
2012-13	51.11	51.19	52.44	34.77%
2013-14	40.00	24.00	24.50	-53.28%
2014-15	25.00	19.25	19.49	-20.44%

Misc Receipts of RDSO/LKO Over last 15 years

(Figs. in thousand of Rs.)

Misc. Receipts	Metro	Non-Metro	Total	% Variation Over last Year
2000-01	0	65282	65282	-7.94%
2001-02	0	80415	80415	23.18%
2002-03	0	84847	84847	5.51%
2003-04	0	97617	97617	15.05%
2004-05	0	116057	116057	18.89%
2005-06	0	107665	107665	-7.23%
2006-07	0	174805	174805	62.36%
2007-08	0	315085	315085	80.25%
2008-09	0	361675	361675	14.79%
2009-10	0	258430	258430	-28.55%
2010-11	0	267654	267654	3.57%
2011-12	0	205987	205987	-23.04%
2012-13	0	266548	266548	29.40%
2013-14	223124	302834	525958	97.32%
* 2014-15	29800	299873	329673	-37.32%

* Approximate

Current Status

- Currently RDSO is able to recover Inspection Charges only from Railway PSUs and private parties.
- Revenue foregone for inspection conducted for Zonal Railways is a major loss for RDSO as an independent Zonal body.
- In addition a large number of items have been removed from RDSO inspection list in favour of RITES inspection. ***(Next Slide)***

Computation of notional loss of inspections charges from Zonal Railways/PUs foregone by RDSO (Indicative Figures)

Figures in Crores of Rs.

Dte.	Value of material inspected			Notional Inspection charges @ 1% of Value of material.			Notional loss involved by non levy of Inspection Charges from zonal railways.		
	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
QA/ Mech	4381	4381	3214	44	44	32	38	23	20
QA/ S&T	1649	1281	1764	17	13	18	13	11	15
Elect. I Cell BPL & JHS	1246	956	691	12	9	7	12	9	7
TOTAL	**7276**	**6618**	**5669**	**73**	**66**	**57**	**63**	**43**	**42**

REDUCTION IN RDSO INSPECTED ITEMS

Fig. in 'Crores' of Rs.

Name of Directorate	Total Number of Items Inspected Earlier by RDSO	Total Number of Items currently Inspected by RDSO
Quality Assurance/Civil	33	14
Quality Assurance/S&T	123	123
Quality Assurance/Mech.	339	102
Electric Loco	460	Nil
TOTAL	**955**	**239**

Source : Audit Report/RDSO

Receipts from Upcoming Metros

- 18 Metros are upcoming as per Ministry of Urban Development.
- Presently there are 14 Metros in various stages of construction and operation.
- Out of these RDSO has rendered safety certification service to 11 Metros and received Rs. 55 Crores approx. over last 03 years.
- RDSO is likely to receive Rs. 125 Crores approx. over next 3 to 5 years.

Rough Estimation of RDSO Receipts Potential

- Current estimated earnings – Rs. 35 Crores per annum.
- **Future Potential –**
- *Additional earnings due to inspection charges currently foregone – Rs. 70 Crores per annum.*
- *Metro Certification Charges @ Rs. 25 Crores per annum.*
- **Total Rs. 130 Crores (70 + 25 + 35).**
- Plus additional earnings on account of increasing the no. of RDSO inspected items.
- ***Demand No. 16 Budget Allotment (Avg. over last 03 years) - Rs. 35 Crores***

Required Policy Intervention

- Directive to ensure RDSO is able to charge Inspection Charges for services rendered to Zonal Railways (free inspection service does not reflect RDSO's true potential).
- RDSO inspection is rigorous and of high quality. Hence all safety and critical items to be brought back under RDSO ambit.

THANK YOU

Presentation by RWF

FA& CAOs' Conference

28.11.2015

Background

- RWF is manufacturing hub for cast wheels and forged axles.
- Process of casting requires use of high quality silica sand
- Present requirement 32 mT per day
- Being procured from trade @ Rs. 2,980 per mT
- Expenditure on silica sand per annum Rs. 2.62 cr (based von 275 working days in a year)

Problems faced by RWF

- Environmental risks associated with disposal of used sand
- Banning of mining activity by state governments in many states
- Cost likely to go up in future
- Increased rejection rate of wheels in recent months due to high clay content
- Import very expensive (Rs.8,600 per mT)

Suggested Solution

- Thermal reclamation technology is now available
- Reclamation process involves:
- Removal of metal particles mechanically
- Heating used sand in furnace at 650°-700° celsius to remove resin coat
- This results in 90% recovery of high quality silica sand

Suggested solution

- BOOT / annuity basis
- Cost of plant including storage shed Rs. 4.5 cr*

  (*this can probably come down by Rs. 50 – 60 lacs)
- Funding - Debt equity ratio of 70:30
- Debt @ 14% p.a. with 15 year tenure and RoE @14%
- Revenue requirement for the investor for meeting financing cost will be Rs. 0.84 cr

Cost benefit scenario

Assumptions	Rs cr
Debt (70%)	3.15
Equity(30%)	1.35
interest @14% p.a.	0.441
Return on equity at 14%	0.189
Principal spread over 15 yrs	0.21

Cost analysis

Financing cost p.a.	0.84
Energy cost p.a.	0.38
Water cost p.a.	0.04
Manpower (2 shifts a day and 2 persons per shift)	0.04
Depreciation*	0.27
Contingencies	0.02
10% additional silica purchase	0.26
Total cost p.a.	1.85
Savings (2.62-1.85)	0.77
*salvage value assumed tobe 10%.	

Sensitivity analysis

- **Cost goes up by 10%** : savings Rs. 69 lacs p.a.
- **If cost up by 25%** : savings Rs. 56 lacs p.a.
- **Efficiency comes down by 10%** : savings Rs. 51 lacs p.a.
- **If efficiency down by 10% and cost up by 10%** : savings Rs. 43 lacs p.a.

Conclusion

- Sensitivity analysis shows that savings in the range of Rs. 43 to 69 lacs per annum are achievable.
- Apart from the savings, it provides a long term, environment friendly solution.

Thank you

Cost benefit analysis (assuming cost = Rs. 4 cr)

Assumptions	Rs cr
Debt (70%)	2.8
Equity(30%)	1.2
interest @14% p.a.	0.392
Return on equity at 14%	0.162
Principal spread over 15 yrs	0.187
Cost analysis	
Financing cost p.a.	0.741
Energy cost p.a.	0.38
Water cost p.a.	0.04
Manpower (2 shifts a day and 2 persons per shift)	0.04
Depreciation*	0.27
Contingencies	0.02
10% additional silica purchase	0.26
Total cost p.a.	1.751
Savings (2.62-1.751)	0.87
*salvage value assumed tobe 10%.	

Sensitivity analysis

Cost analysis Cost up by 10%	Rs.cr
Financing cost p.a.	0.924
Energy cost p.a.	0.38
Water cost p.a.	0.04
Manpower (2 shifts a day and 2 persons per shift)	0.04
Depreciation*	0.27
Contingencies	0.02
10% additional silica purchase	0.26
Total cost p.a.	1.934
Savings (2.62-1.93)	0.69
*salvage value assumed tobe 10%.	

Cost analysis: efficiency down by 10%	Rs. Cr
Financing cost p.a.	0.84
Energy cost p.a.	0.38
Water cost p.a.	0.04
Manpower (2 shifts a day and 2 persons per shift)	0.04
Depreciation*	0.27
Contingencies	0.02
20% additional silica purchase	0.52
Total cost p.a.	2.11
Savings (2.62-2.11)	0.51
*salvage value assumed tobe 10%.	

Cost analysis : cost upby 25%	Rs.cr
Financing cost p.a.	1.05
Energy cost p.a.	0.38
Water cost p.a.	0.04
Manpower (2 shifts a day and 2 persons per shift)	0.04
Depreciation*	0.27
Contingencies	0.02
10% additional silica purchase	0.26
Total cost p.a.	2.06
Savings (2.62-2.06)	0.56
*salvage value assumed tobe 10%.	

Cost analysis: efficiency down by 10% cost up by 10%	Rs.cr
Financing cost p.a.	0.92
Energy cost p.a.	0.38
Water cost p.a.	0.04
Manpower (2 shifts a day and 2 persons per shift)	0.04
Depreciation*	0.27
Contingencies	0.02
20% additional silica purchase	0.52
Total cost p.a.	2.19
Savings (2.62-2.19)	0.43
*salvage value assumed tobe 10%.	

Study on Weigh Bridges

South Central Railway

Scope of the Study

- Study was conducted on 27 weighbridges which includes
  - 11 Railway Owned IMWBs
  - 10 Private IMWBs which are declared as Associate weighbridges
  - 2 static weigh bridges (Malkhed Road, Jutur) and
  - two pre weigh bins (Manugur, Manchiryal),
  - commercial offices attached to them and
  - one commercial control of SC Division

Study Results

Issues relating to in-motion weighbridges

- No Uniformity among the in-motion weighbridges either in the make or size and most importantly software used in weighbridges. **Same make and same software have different features at different places**
  - Even among the 11 Rly IMWBridges inspected, 4 different makes and use of different softwares noticed.

- Weighbridges are mainly meant for giving gross weight but in the absence of direct connectivity between weighbridges & FOIS, weighbridge softwares are customised to generate weighment sheets in the format required for generating RRs.

- These softwares were developed as per the user requirements & no mechanism exists for certification and auditing of the programs loaded into the weigh bridges – no centralized control to ensure uniformity in the software . This gave scope for various types of manipulations on weighment results.

Software related issued in IMWBs

- Certain IMWBs have the facility to export weighment Sheet data in various forms like excel etc.
- As all fields can be edited including gross weight after exporting in excel, this provision gave scope to manipulate the entire result of the weighbridges.
- Weighment sheets printed after editing in excel exactly look like the ones which are printed on weighbridges. Therefore, changes made in weighment advices can't be detected unless reconciled with the data available on weighbridges. Eg. MICT/Tandur, MZCY/YA
- But in most of the weighbridges, previous data is being deleted
  - ICL/VNUP – not even one rake is data available
  - At RJY- data can be stored only for 50 rakes. After that the data gets automatically deleted.
- At pandarpavani, most of the gross weights are in the range of 80 to 89 t and no over weights are noticed. Even brake van weight was shown as 89 t giving suspicion that the programe was designed to give weights ranging from 80 to 89 t irrespective of the actual weight. When the same rake was weighed at another railway IMWM on the way, wide variations in the weights of the wagons detected, confirming the suspicion.
- At RJY - If tare weights are not fed, the data doesn't get stored even after weighment.

Software related issued in IMWBs

- In the weighbridges available at Sasti, pandarapavni etc., Gross weight becomes zero if the tare weight fed is equal to the Gross weight. Once it is made as zero, it cant be reverted.

- Rake data can be deleted in most of the IMWBs
- At Kakinada - Individual wagon data can be deleted which will erase even gross weight pertaining to that wagon – this can be used to manipulate specific wagons which are overloaded

- To have the flexibility in case of single/multiple engines, some of the IMWBs kept a provision to indicate the no of Axles that can be eliminated from weighment. Surprisingly, even upto 40 axles can be eliminated from the beginning and 40 more axles in the end. This facility can avoid taking weighment of some wagons in the front and some wagons on the rear.
  - Kakinada & Krishnapatnam

- Time of weighment & Date of weighment can be edited
  - Kakinada
- Some weigh bridges give error message if the speed is > 15 kmph and the rakes go without re-weighment
  - Chittapur, RJY

Other issues at IMWBs

- FAX machines meant to transfer data are not in use at any of the weigh bridges. Some are stated to be out of order and in most of the cases even seals were not opened for years together.
- Weighment details are intimated to commercial control over telephone. Commercial control inturn sends message over phone/FOIS message to the loading point for RR generation.
- No records are available in commercial control to reconcile weigh bridge data
- Weighment sheets are not sent to RR issuing stations on several occasions from weighbridges and thus no reconciliation takes place even at loading point also.
  - TIAs raised debit of Rs.1.35 Cr on various stations of GTL Division for the traffic received from HOM

Suggestions & Recommendations

- All the weighbridges including private IMWBs should have the same and **uniform software** developed with all the requisite safeguards preferably by CRIS.
- **The weighbridges should give only gross weight and the same should be transmitted to FOIS on line** in the gross weight column of the weighment advice and RR. Manual feeding of Data should be totally avoided. Required infrastructure should be provided on war footing as the payback period for such expenditure is very less.
- **Weighment advices should be printed only from the weighbridges** and **no facilities for exporting the data from weighbridges** for printing/editing at other locations.
- Weighment data of all the rakes should be available in the weighbridges with various details like Rake No., date & time etc and **there should be no facility for deletion/editing of data in the weighbridge for field staff.** Sufficient memory to keep atleast 10 years data should be available in all the IMWBs. Any data deletion from IMWBs should be done only after 10 years and after taking approval of competent authority and after taking data back ups.

Split weighments

- Split weighments are taken and the data is compiled for generation of RRs
  - ICL/VNUP
- Split weithments are taken, data exported in excel, edited and weighment advise prepared as if entire rake is weighed at once. Huge differences are noticed compared to weight as per weigh bridge and that of weighment advises preapred.
  - MICT/Tandur
- Data from weigh bridges are exported, edited in excel and weighment advise is prepared. No original data remains in the weighbridge
  - MZCY/YA, MICT/TU
- Presence of weighbridges within the private siding premises before interchange point and use of siding owned locos and their own staff for taking multiple split weighments have further increased scope for manipulations like loading after taking weighments

Calibrations issues at IMWBs

- IMWBs are required to be tested & calibrated at prescribed intervals (once in a quarter) with test wagons & sealed to avoid manipulations.
- In most of the weighbridges inspected, calibrations were overdue and in some cases no calibration was done for more than 6 months. No seals were found in many cases and in some cases though seals were found, they were not intact.
- Most of the Pvt WBs are not calibrated by Rly staff stating that the private sidings have not paid the calibration charges. It is pertinent to note that carrying out calibration is in the interest of Railways. As no penalties are levied for non calibration, though guidelines exist to de-notify them as associated weighbridges, obviously most of them chose not raise the issue of calibration.
- Everyone is carrying a certificate issued by weights& measures Dept of state govt which is valid for a period of one year but there is no mechanism to prevent calibrations at a later date by the siding staff
- **However, the position on SCR has improved substantially after the study report was submitted to the General Manager. Now calibrations are being done regularly.**

Suggestions & Recommendations

- All the loading and major destination points should be provided with weighbridges **on the railway portion after the interchange point** to ensure that the weighment is taken only when the rake is being dispatched to the destination so that rakes are not loaded again after taking weighment. .
- As proper maintenance of private/associate weighbridges is in the interest of railways, **the weighbridges should be maintained as per the prefixed schedules** irrespective of the payments made or not. Bills can be raised and realized as being done for siding charges.
- The charges are levied on private sidings for that purpose of calibration are very high, which may go upto Rs. 4-5 lakhs per calibration. (Min Rs.1,18,000, actual distance @ Rs.1180/km, upto 5 hrs, demurrage rules apply later). **We may have to review the existing charges for test wagons and calibration** to encourage and ensure regular calibrations as the same is in the interest of Railways.

Other issues at IMWBs

- Huge variations from one weighment to the other either on the same bridge or other bridges Eg. WB results of PRPI & MAGH
- IMWBs Frequently goes out of order resulting in sending rakes as Senders Weight Accepted (SWA)
  - Chittapur WB, RJY
  - Rakes received from HOM (Royapuram WB)
  - Rakes from UTCS/MQR – Pvt static weigh bridge adopted instead of weighing at Chittapur
  - 12 rakes of industrial salt from VZP to ASL siding/Kovvur neither weighed at originating point VZP nor at RJY WB which is located on the way to destination for want of advise from originating station
  - Rakes received from Verna & Ravikampadu to Bethamcharla not weighed though advised to do so on RRs
  - Board's guidelines that CCM shall monitor rakes sent on SWA and ensure that all the rakes are weighed before delivery are not followed
- Most of the weigh bridges are highly inaccessible to witness weighment even for the siding staff. So practically no witness takes place. Most of the times, only private siding personnel are operating the weighbridges

General Complaints on in-motion weigh Bridges

- Reweighments for load adjustments are being done even upto 4 times for the same rake
  - KSLK, COA
- Abnormal detentions for offloading of consignments – even upto 1406 hrs (upto 59 days) at SLO
- Detention of timber waste rakes for Weighment atleast for 3 hrs at Kodur WB (Charged weight is around 61 & 63 t but max loadability is around 32 t)
- Parties are penalized for overloading in various ways – punitive charges from originating station to the destination, demurrage charges for detention taken for offloading, wharfage for the consignment offloaded at very inconvenient places, Engine hire charges etc. - counterproductive – encouraging manipulations – no records are being maintained properly
  - Rakes from COA are detained at SLO for want of place for offloading
- Even if one or two wagons are found beyond limits, speed restrictions are being imposed for the entire rake instead of load adjustment/detachment
  - 9 rakes @ 30 kmph, 19 rakes @ 50 kmph from 1.2.11 to 17.2.11 at COA

Suggestions & Recommendations

- Once rake composition (wagon numbers) is fed in the RMS, **all the wagon details like tare weight, CC etc., should automatically flow into RMS,TMS** and the **gross weight should automatically flow from IMWB** and Freight should get calculated based on the rate masters and rule masters regarding punitive charges etc.
- **Generation of RRs without weighment should be an exception** and all the rakes for which RRs are issued as SWA (Sender's Weight Accepted) should invariably weighed at the destination before effecting delivery.
- **An exceptional report of the RRs prepared on SWA should be made available in FOIS** as being done for the cases of FAOC/FAUC. All the SWA cases should monitored at the level of DRMs/CCMs to ensure weighment before delivery & all the cases of non weighment should be investigated and responsibility should be fixed on the concerned
- Some of the bulk and lose **commodities whose chargeable weight is much higher than loadability should be exempted from weighment** to avoid unnecessary shunting activities and avoid detention to rakes for weighment.

General issues in FOIS Terminals

- Calculation of DC and wharfage and preparation of balance sheet should be done from FOIS data.
- Working manual should be made available at each FOIS location
- In case of collection of Rs100 per additional RR, there is no facility in the system to crosscheck the total number of additional RRs and amount collected – to be provided.
- As RMS and TMS are linked for placement of wagons, though rake is physically available at goods shed/siding the same cannot be placed on the system unless the rake is released in RMS. This is affecting the calculation of demurrage on the system.
- Back reporting for placement of rake can be done only for 2 hrs. As a result, though rake is physically placed earlier, system is not permitting placing before 2 hrs. But there is no such restriction for releasing rake. Both the provisions can be misused to under report detention and consequently collecting less demurrange charges

Other issues at FOIS Terminals

- The system is allowing adjustment of O/C or U/C across the RR under FAOC/FAUC
- In case of rationalized routes, unless selected as rationalized route, the system would charge for shortest route. Therefore, all the rationalized routes should be fed into the FOIS centrally at Board's level immediately after their approval and while calculating freight system should automatically take the rationalized route distance instead of shortest route.
- Some excepted routes etc., are not fed in the system or not being identified properly –SMET, JNKM-BDHN. As a result, overloading is being permitted treating them as normal routes unless specified by the field level staff – posing safety problems on account of overloading.
- RRs generated are not visible for performing any checks
- Weighment sheets are not being sent to TAO to carryout internal check in most of the cases.

Suggestions & Recommendations

- **Uniform guidelines are to be issued to all the weighbridges** and JPO should be issued for maintenance of weighbridges duly mentioning uniform maintenance schedules, responsibilities of various departments and personnel. Imlementation of JPOs should be monitored at the level of DRMs, PHODs and GM.
- As speed restrictions have huge implications like wagon turnround, cost of fuel, cost of staff etc., **the policy on speed restrictions needs to be reviewed.**
- **There shall not be any scope for editing in RR like FAOC/FAUC.** There should be separate provisions for arranging refunds and collection of undercharges, if any.
- RRs generated from FOIS are not decipherable. **Efforts should be made to generate good quality RRs.** Linking FOIS & weighbridges with TAO is one of the topmost requirement to carryout internal checks.
- **It is expected that similar problems must be prevailing on other Railways as well & therefore attending these issues across the Railways may improve earnings substantially.**


Thank You !

Direct Collection of Station Earnings

By

Smt. Alka Mehra, FA&CAO

South East Central Railway, Bilaspur

Different mode of remittances.

- Station may remit its earnings to Cash Office through T C Safes.
- Station may deposit its earnings at the nearby bank having deposit account.
- Station may hand over its earnings to the bank's officials/agent at station itself under agreement of door step banking.

Accountal & Acknowledgement

- Station has to send its vouchers like CR Note, TR Note, E-RR, etc to Cash Office for accountal and acknowledgement of remittance.

- Vouchers may be sent either by TC safes or by courier/ peons.

- Cash Office verifies the vouchers by way of Shroffing and endorse acknowledgement of receipt /correct remittance.

- HQ Books section checks the remittances into bank with Credit Scroll received from banks.

Deficiency in Conventional system.

- Earnings found to be detained at stations due to irregular movement of cash safes.
- Safes often found defective either in respect of its lock or seal.
- It takes a long time to travel to cash office.
- Even after arrival at cash office, safes are found to be detained.
- Late remittance leads to loss to exchequer and is cause of safety and security concerns.

Observations

- Railways adopted all three modes of remittance i.e. deposit directly into nearby bank, cash collected by banks at stations (Door Step Banking) and remittance into cash office.

- Over the years it is experienced that Door Step Banking is the most beneficial in terms of expenditure, time and security aspect.

- We may gain additional benefit if safe movement is dispensed with altogether.

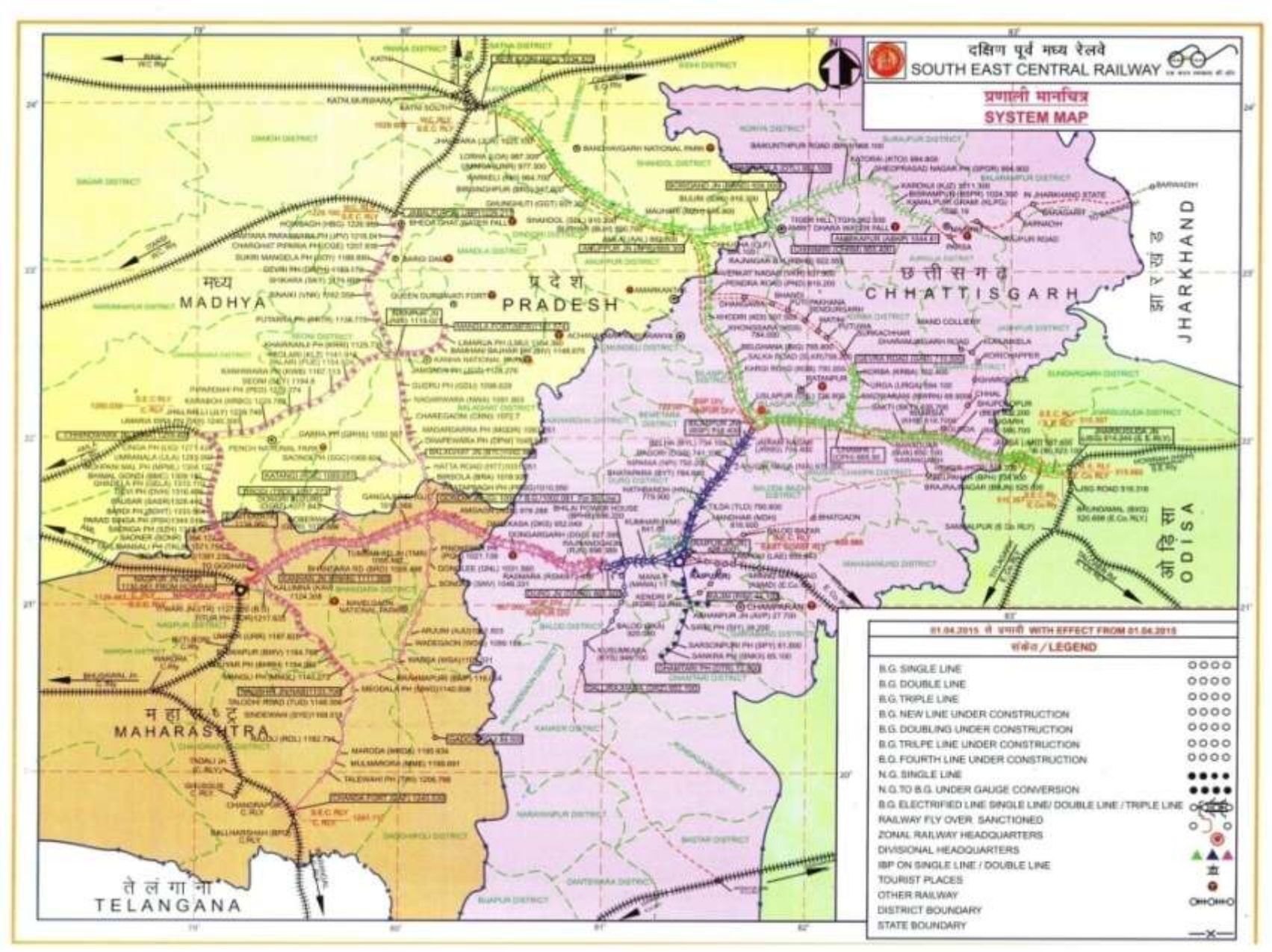
Door Step Banking is Beneficial….

- Detention of Station Earnings is eliminated.
- It eliminates transit loss.
- Ensures faster credit in Govt. account.
- Concern over safety and security of Govt. cash is minimized.
- Ensures savings in manpower in Cash Office, Commercial and Security departments.

Present Scenario
South East Central Railway

- All 88 stations /locations of Chhattisgarh have been covered under direct collection of IDBI.
- All 47 stations of Maharashtra State are under direct collection of SBI.
- 06 stations in MP are under Rail Shakti.
- 20 stations are operating deposit A/C in MP and Odisha.
- 42 stations are sending cash to cash Office. Such stations will be reduced to 22 following the closure of narrow gauge for mega block from 01.12.2015 .

System Map of SECR



Savings due to surrender of cash office and TCW staff

Staff Category	Scale	Average/ month	No of staff	Savings/ Year in Crs	Estimated Savings in 7th PC in Crs
Shroff	9300-34800 GP 4200	`57488	13	0.89	1.07
Clerks	9300-34800 GP 4200	`57488	03	0.20	0.24
Peons	5200-20200 GP-2000	`32193	04	0.15	0.18
TCWs	5200-20200 GP-2800	`33945	04	0.16	0.19
Total			**24**	**1.40**	**1.68**

Savings on account of Security and Comml. Staff for 25 stations where deposit accounts are operational.

Scale	No of staff	Monthly half day wages. (DA-119%)	Yearly emoluments for half day In Crs.	Estimated emoluments in 7th PC In Crs.
9300-34800 GP 4200	25 Comml staff@ 28743/- as half day wage.	` 718575	0.86	2.23
5200-20200 GP-2000	25 Comml peons@16096/- as half day wage.	` 402412	0.48	1.24
5200-20200 GP-2800	50 Security staff@ 16972/- as half day	` 848625	1.018	2.61

Savings on Honorarium

Total Cash Earnings per month (A)	Cash deposited through direct cash deposit (B).	Cash would have been come to Cash Office (A-B)	Yard Stick per shroffing counter per Month	Rate per lac beyond yard stick	Total monthly Hon would have been (C)	Present Hon. being paid Per month (D)	Savings in honorarium/ Year
` 60 Cr.	42 Cr.	`18 Cr	`37.5 lacs per month	`300	`4 lacs.	`0.25 lacs	`0.45 Crore

Yearly savings due to Direct Collection

Category of Expenditure	Yearly amount (in Cr)	Estimated Yearly amount following 7th PC (in Cr)
Comml Staff	1.34	3.47
Security Staff	1.018	2.61
Cash Office Staff & TCWs	1.4	1.68
Vehicle	0.45	0.45
Honorarium	0.45	0.45
Total	**4.658**	**8.66**

Collection charges being paid to banks

Bank	Rate per station per month	Daily collection having earnings > 15000/- per day and above	Once in a week Collection having earnings < 3500/- per day	Twice in a week collection having earnings > 3500/- but<15000per day	Thrice in a week having earning <15000/- per day	Total amount being collected per month
IDBI	`11800 In CG	41 Stations	33 Stations	14 Stations.	------	150 Cr
SBI	`5575 in Maharastra	23 Stations	-------	---------	24 Stations	16 Cr

Yearly Net Savings Already Achieved

Savings On different account as calculated in Crs (A)	Amt. being paid to IDBI for Door Step Banking of 88 Stations in Crs. (B)	Amt. Being Paid To SBI for Door Step Banking of 47 Stations in Crs. (C)	Net Savings in Crs A-(B+C)
4.658	1.24	0.31	3.108

Further Action Plan

- Movement of safes is to be discontinued in the Sections where there is no cash to be carried to cash office.

- 22 stations of different sections from where cash is being remitted to cash office through safes is to be brought under Rail Shakti/Hybrid Rail Shakti to discontinue age old safe movement.

Cash safe movement involves….

- Tendering for procurement of safes and leather bags.
- Regular maintenance of safes in respect of its repairing, replacement of damaged pad locks, body locks etc.
- Requirements of coolies and trolley for every movement of safes.
- Joint involvement of Security, Comml, Accounts and operating staff together for operation.
- Round the clock booking of RPF & Comml. staff for guarding the cash office and loading of cash safes in trains and unloading.

Discontinuing Cash safe by…..

- Stations are to be brought under direct remittance into bank or direct collection by bank.
- Station Vouchers,CR notes etc. may be transported to cash office by comml peons or courier agencies or cash collecting banks if there is no cash/ DDs.
- Envelops may be used in place of leather bags.
- Envelops may be directly handed to the Comml staff present in the cash office.
- Witnessing by TCWs of envelops may not be required.

Savings anticipated on dispensation of safe movement

Category of Expenditure	Number	Rate	Tentative amount/Yrin lakhs
Commercial staff	03	9300-34800/- GP-4200/-	17.30
RPF staff	06	5200-20200/- GP-2800/-	19.93
Coolies	08	`193/-per day /head	5.64
Leather bags	1000	`200/-	2.00
Maintenance of safes	22	`1000/- per month per safe	2.64
Total			**47.51**

Safe movement has been dispensed with in two sections covering 27 stations of Raipur Division and 12 stations of Bilaspur Division.

CIT PRIOR TO DOOR STEP BANKING

- Earnings of large number of stations could not be taken into account by 3rd of the following month.
- CIT was found to be high.
- A good number of instruments having bulk amount remained unremitted for 10- 20 days.
- Even after completion of one month ,it was not possible to arrive at actual earnings and outstanding of previous month.
- Reconciliation of RIB had been adversely affected.
- Clearance of station outstanding got delayed.
- Traffic staff posted in stations had to wait anxiously for months together for getting their settlement dues following their retirement on superannuation.

Comparison of CIT

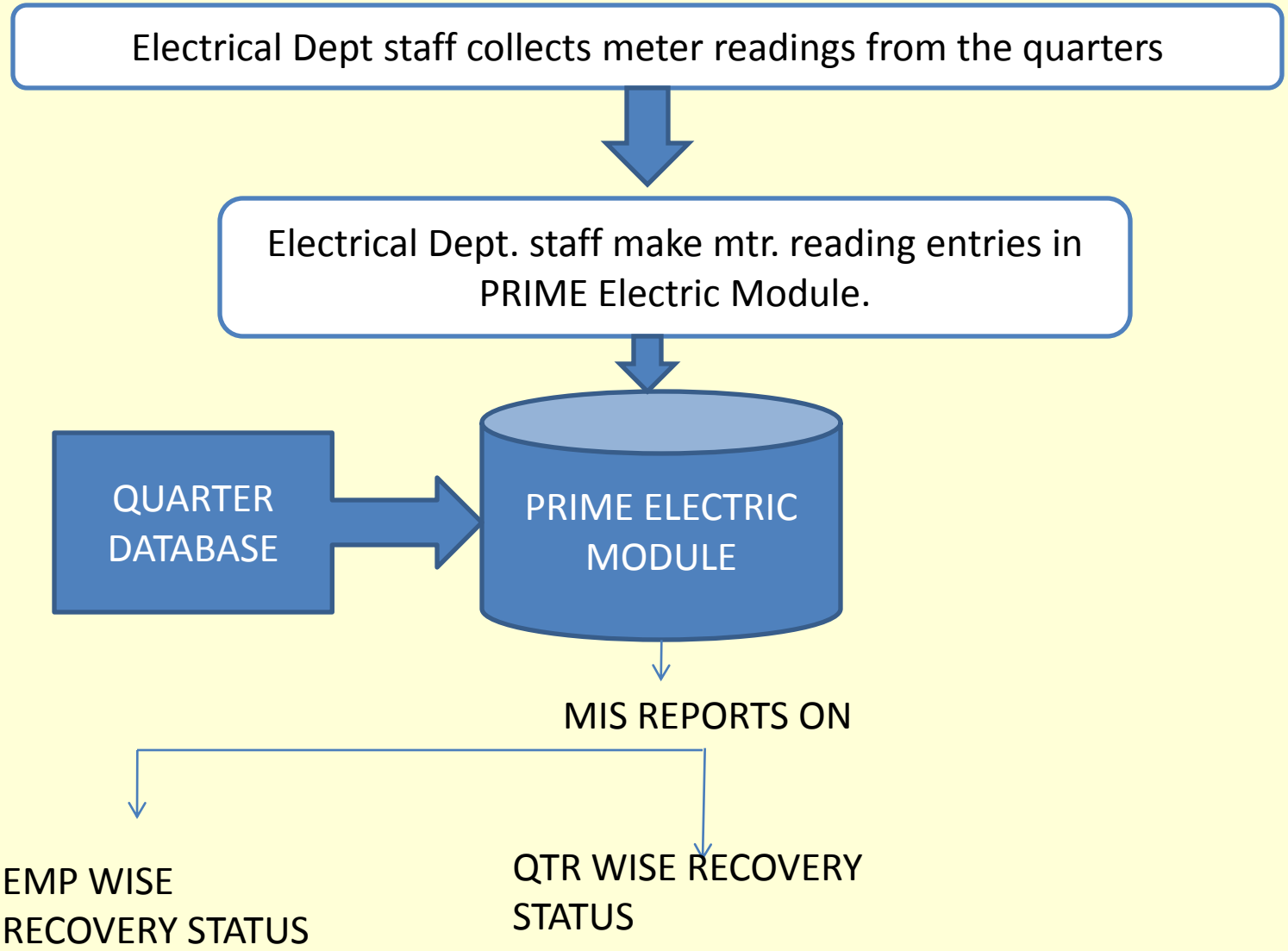
Financial Year	Average Monthly Earnings In Crs A	Average Monthly CIT In Crs. B	Average monthly CIT comprising Cash & instrument In rs C	Percentage of C with respect to A
2005-2006	500	25	25	5%
2010-2012 After implemented Door Step Banking	900	45	3.65	0.40%
2015 -2016 Following discontinuation of safe movements in three sections	1500	1.27	0.30	0.02%

Thank You

Introduction of Electric Recovery Module in PRIME in KGP Divn.

- Before introduction of this module, electric meter-readers of Electrical Dept. used to send the amounts of electric recoveries quarter- wise to Bill Clerks of Personnel Dept., who made manual inputs into PRIME in Payroll System.
- As a result, there were cases of Non-recoveries and under-recoveries which were noticed in 2013-14. Moreover, it was not very easy to keep a watch over recoveries: Employee – Quarter Wise.
- To resolve this problem, KGP division developed PRIME based Electric Module system which was tagged with existing Quarter Module of PRIME.

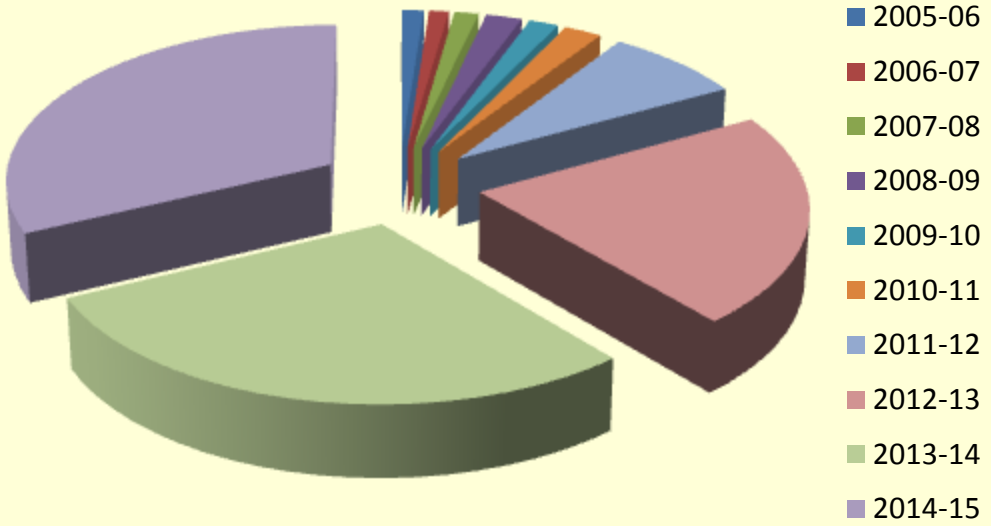
SYSTEM INTRODUCED:



DETAILS OF RECOVERIES INCLUDING ARREARS

Rs/Lakh

FY	Recovery	No. of Emp	Annual Recovery / employee
2005-06	25.17	8958	281
2006-07	22.48	8862	254
2007-08	27.15	8726	311
2008-09	40.91	8777	466
2009-10	29.81	7860	379
2010-11	37.82	7820	484
2011-12	134.62	7501	**1795**
2012-13	408.29	8000	**5104**
2013-14	508.99	7496	**6790**
2014-15	547.22	7278	**7519**



** From the table it is seen that due to implementation of the module, there is a jump in the amt of Recovery per employee inclusive of arrears from 2011-12 onwards.

** Figures were extracted from AFRES.

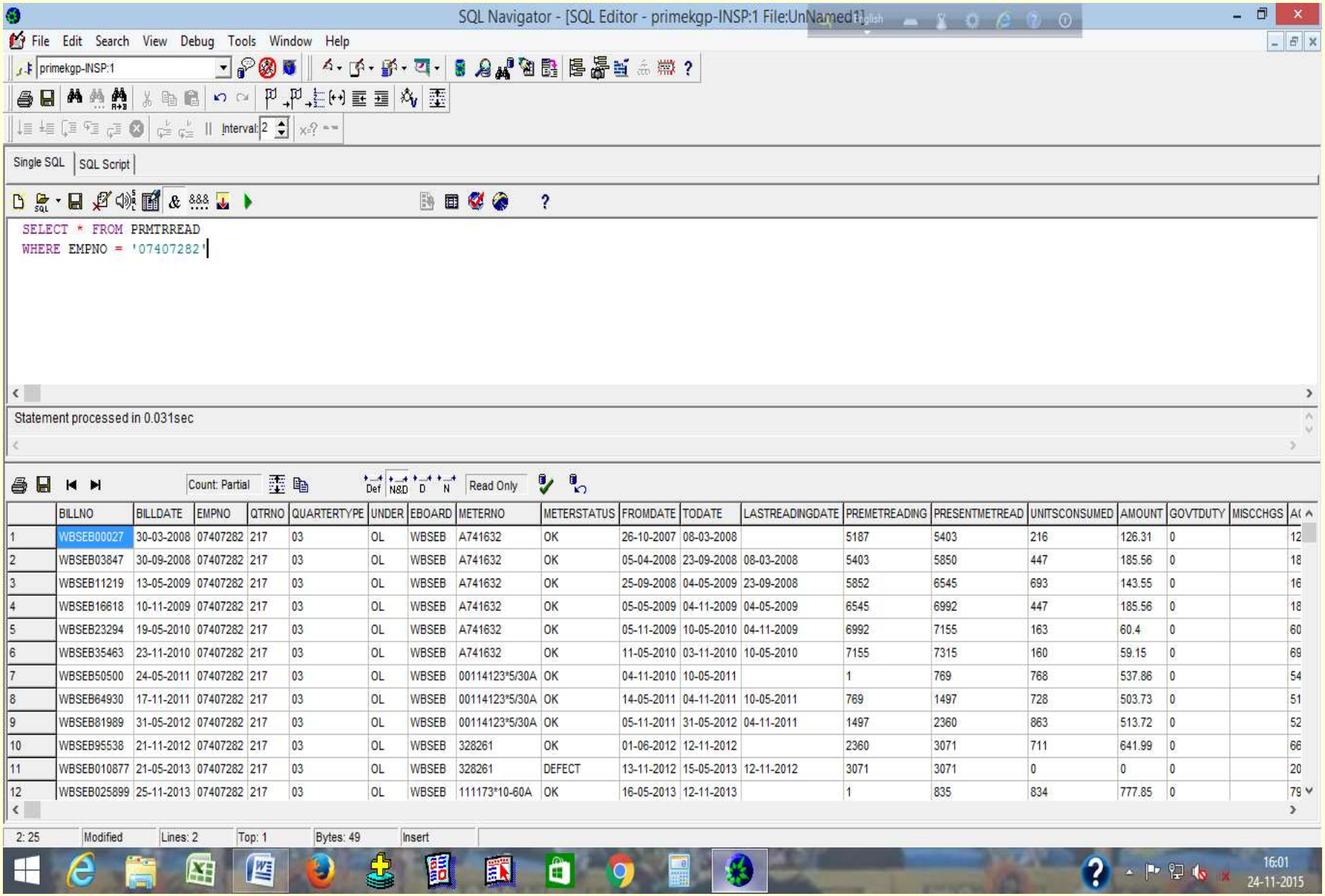
STRUCTURE OF QUARTER DATABASE (TABLE NAME: PRMAQTM) [SAMPLE]

QTRNO	COLONY	QTRPOOL	RENTCHARGES	EMPNO	OCCUPATIONDATE	VACATIONDATE	QTRSTATUS	NONRLY	CHANGEDATE	USERID	QTRTYPE	ELECBYRLY	SUBSTANDARD	UNDERREPAIR	SHARED	STATIONCODE	ACTUALAREA	IOW	SURR.ADRM
291/B/UNIT-2	C4	08	5	07633324	11-02-2005	23-09-2010	V	N	24-09-2007	PARTHO	01	Y	N	N	N	KGP	15	03	N
356/W	C4	07	326	05769851	03-04-2015	03-04-2015	O	N	16-04-2015	QTR	04	Y	N	N	N	KGP	120	03	N
175/W	C4	03	189	06089458	19-05-1998		O	N	01-09-2009	PARTHO	03	Y	N	N	N	KGP	178	03	N
359/1	C4	05	189	09629830	08-11-2010	08-11-2010	O	N	05-10-2007	PARTHO	03	Y	N	N	N	KGP	85	03	N
360	C4	08	413	05832135	01-04-2015	01-04-2015	O	N	07-04-2015	QTR	04	Y	N	N	N	KGP	145	03	N
177	C4	01	413	07403215	04-08-2012	23-06-2012	O	N	16-08-2012	PARTHO	04	Y	N	N	N	KGP	178	03	N
242/W	C4	01	413	07278056	13-05-2011	18-04-2011	O	N	08-09-2009	PARTHO	04	Y	N	N	N	KGP	205	03	N
359/3	C4	04	189	07401693	01-11-2002		O	N	24-09-2007	PARTHO	03	Y	N	N	N	KGP	85	03	N
361	C4	03	413	07224916	24-05-2010	24-05-2010	O	N	24-09-2007	PARTHO	04	Y	N	N	N	KGP	200	03	N
359/4	C4	12	189	06077201	30-03-2009	30-03-2009	O	N	24-09-2007	PARTHO	03	Y	N	N	N	KGP	85	03	N
353/1	C4	08	189	09804262	15-05-2009	15-05-2009	O	N	24-09-2007	PARTHO	03	Y	N	N	N	KGP	85	03	N
245	C4	15	326	07695962	23-07-2007	02-07-2015	V	N	01-09-2009	PARTHO	04	Y	N	N	N	KGP	120	03	N
246	C4	01	413	07673838	03-08-2012	29-06-2012	O	N	07-08-2012	PARTHO	04	Y	N	N	N	KGP	134	03	N

ELECTRIC DATABASE (TABLE NAME: PRMTRREAD) [SAMPLE]

BILL NO	BILL DATE	EMP NO	QTR NO	QTR TYPE	UNDER	EBOARD	METER NO	MTR STATUS	TODATE	LAST RDNGDT	PREVR DNGDT	PRESENT READING	UNITS CONSUMED	AMT	GDUTY	ACTUALAMT	DEDAMT	PRINT	UPDT	USERID
WBSEB00030	07-04-2008	09608813	C2/1	02	OL	WBSEB	255979-5/20A	OK	19-02-2007		3265	3865	600	259.25	0	259.25	259.25	Y	Y	ELECT
WBSEB00031	07-04-2008	09608813	C2/1	02	OL	WBSEB	255979-5/20A	OK	17-08-2007	16-08-2007	3865	4383	518	219.75	0	219.75	219.75	Y	Y	ELECT
WBSEB00033	15-04-2008	09622056	518/E/2	02	OL	WBSEB	1068385*5A	OK	22-04-2007		39108	39675	567	119.22	0	119.22	218.56	Y	Y	ELECT
WBSEB00040	15-04-2008	09643710	518/F/3	02	OL	WBSEB	518/F/3	OK	03-10-2007		5285	6032	747	340.84	0	340.84	340.84	Y	Y	ELECT
WBSEB00041	15-04-2008	05679795	518/G/2	02	OL	WBSEB	10035173*5A	OK	11-09-2006		8930	9582	652	76.64	0	76.64	242.69	Y	Y	ELECT
WBSEB00042	15-04-2008	05820297	518/G/3	02	OL	WBSEB	10035180*5A	OK	03-10-2007		5867	6323	456	189.89	0	189.89	189.89	Y	Y	ELECT
WBSEB04656	07-11-2008	QR000861	283B/W	03	WS	WBSEB	283B/W	DEFECT	21-10-2007	20-10-2007	577	577	0	189.89	0	189.89	189.89	N	Y	ANITAS
WBSEB04657	10-11-2008	06001324	S/1/38/UNIT-1	01	OL	WBSEB	S/1/387	DEFECT	15-05-2008		9807	9807	0	80.73	0	80.73	67.28	N	Y	PUSHPITA

MIS REPORT ON ELECTRICTY – EMPWISE
(SAMPLE WITH EMPNO: 07407282)



	BILLNO	BILLDATE	EMPNO	QTRNO	QUARTERTYPE	UNDER	EBOARD	METERNO	METERSTATUS	FROMDATE	TODATE	LASTREADINGDATE	PREMETREADING	PRESENTMETREAD	UNITSCONSUMED	AMOUNT	GOVTDUTY	MISCCHGS	A(
1	WBSEB00027	30-03-2008	07407282	217	03	OL	WBSEB	A741632	OK	26-10-2007	08-03-2008		5187	5403	216	126.31	0		12
2	WBSEB03847	30-09-2008	07407282	217	03	OL	WBSEB	A741632	OK	05-04-2008	23-09-2008	08-03-2008	5403	5850	447	185.56	0		18
3	WBSEB11219	13-05-2009	07407282	217	03	OL	WBSEB	A741632	OK	25-09-2008	04-05-2009	23-09-2008	5852	6545	693	143.55	0		16
4	WBSEB16618	10-11-2009	07407282	217	03	OL	WBSEB	A741632	OK	05-05-2009	04-11-2009	04-05-2009	6545	6992	447	185.56	0		18
5	WBSEB23294	19-05-2010	07407282	217	03	OL	WBSEB	A741632	OK	05-11-2009	10-05-2010	04-11-2009	6992	7155	163	60.4	0		60
6	WBSEB35463	23-11-2010	07407282	217	03	OL	WBSEB	A741632	OK	11-05-2010	03-11-2010	10-05-2010	7155	7315	160	59.15	0		69
7	WBSEB50500	24-05-2011	07407282	217	03	OL	WBSEB	00114123*5/30A	OK	04-11-2010	10-05-2011		1	769	768	537.86	0		54
8	WBSEB64930	17-11-2011	07407282	217	03	OL	WBSEB	00114123*5/30A	OK	14-05-2011	04-11-2011	10-05-2011	769	1497	728	503.73	0		51
9	WBSEB81989	31-05-2012	07407282	217	03	OL	WBSEB	00114123*5/30A	OK	05-11-2011	31-05-2012	04-11-2011	1497	2360	863	513.72	0		52
10	WBSEB95538	21-11-2012	07407282	217	03	OL	WBSEB	328261	OK	01-06-2012	12-11-2012		2360	3071	711	641.99	0		66
11	WBSEB010877	21-05-2013	07407282	217	03	OL	WBSEB	328261	DEFECT	13-11-2012	15-05-2013	12-11-2012	3071	3071	0	0	0		20
12	WBSEB025899	25-11-2013	07407282	217	03	OL	WBSEB	111173*10-60A	OK	16-05-2013	12-11-2013		1	835	834	777.85	0		79

BENEFITS OF THE ELECTRIC MODULE

1. Prior to 2012-13, there was no system of auditing the electrical recoveries based on manual inputs of the bill clerks. In 2013-14, initiatives were taken to automize the billing process continuously based on the revised electric rates of 2010. Moreover, initiatives was taken to charge a minimum rate of deduction, in case of non-availability of meter reading. As a result, considerable improvement was noticed since 2013-14 with an increase of 184% over 2011-12 on electrical recoveries including arrears.
2. Various need-based MIS reports can be generated from the database.
3. FOR DIVISION, PRESENTLY THERE ARE NO ARREARS PENDING TO RECOVER.

SOUTHERN RAILWAY

Suggestions To Enhance Passenger Earnings

Presentation by

FA&CAO
Southern Railway

A bird's eye view

6 divisions

736 stations

Spanning across four states and one UT

Over 1300 trains a day....

....carrying over 860 million passengers annually

or 23.5 lakh passengers per day

SOUTHERN RAILWAY

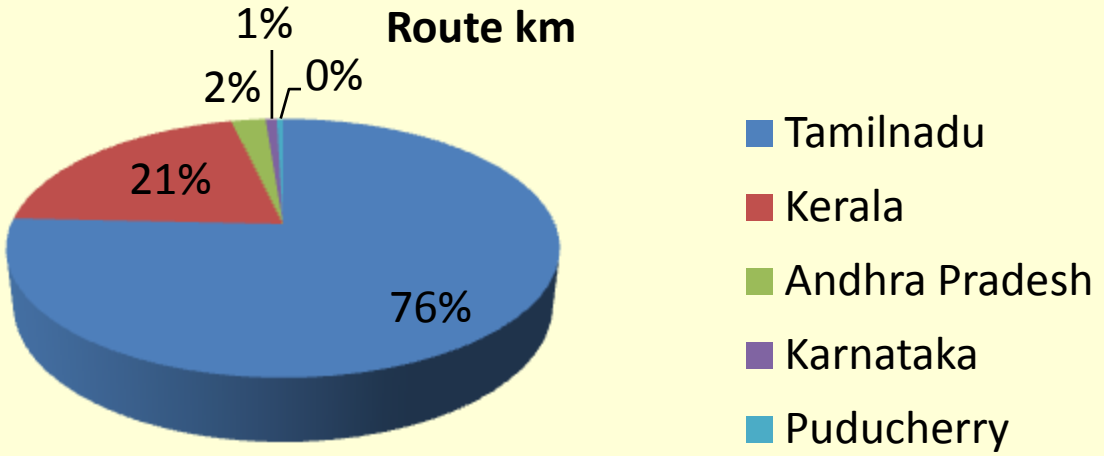
But just one slogan

We care

Divisions of Southern Railway

Our coverage

Sl No.	STATE	BG (km)	MG(km)	Total(km)
1	Tamil Nadu	3452	394	3846
2	Kerala	978	72	1050
3	Andhra Pradesh	121	0	121
4	Karnataka	40	0	40
5	Puducherry	22	0	22
	TOTAL	4613	466	5079



Our stations

Category	Classification criteria based on annual passenger earnings	No. of stations
A1	More than Rs.60 cr.	8
A	Between Rs.60 cr. and Rs.8 cr.	42
B	Between Rs.8 cr. and Rs.4 cr.	26
C	All suburban stations	75
D	Between Rs.4 cr. and Rs.60 lakhs	84
E	Less than Rs.60 lakhs	359
F	Halts	142
Total		**736**

Rolling stock

ROLLING STOCK	BG	MG
Passenger coaches	6737	31
Wagons owned	6698	-

Our power

	BG	MG	Total
Diesel	391	5	395
Electrical	443	-	443
Steam	-	08	08
Total	834	13	847

We run

Average number of trains per day

	Suburban	Mail/ Express	Passenger	MRTS	Total
BG	592	273	330	132	**1327**
MG	-	-	8	-	8

	GOODS
BG	149

Financial Statistics

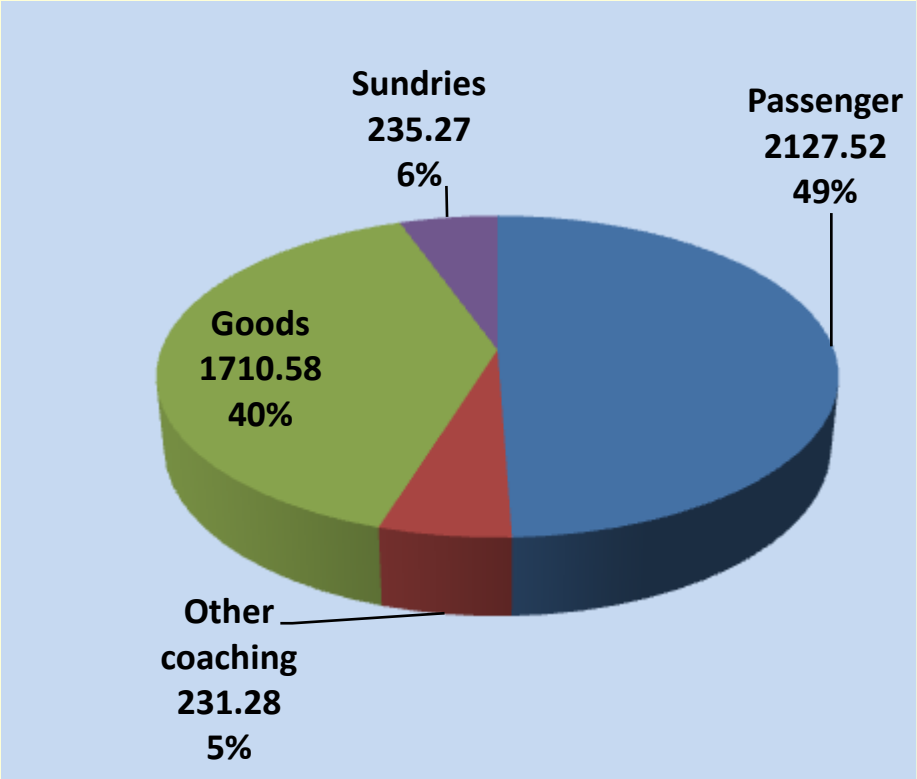
Our Earnings (Apportioned)

Details	TARGET 2015-16	15-16 (upto Oct)
	Rs. Crs	Rs. Crs.
Passenger	4490.00	2367.72
Other Chg.	448.74	243.79
Goods	3632.23	1654.65
Sundry	500.00	279.80
Total	**9070.97**	**4545.96**

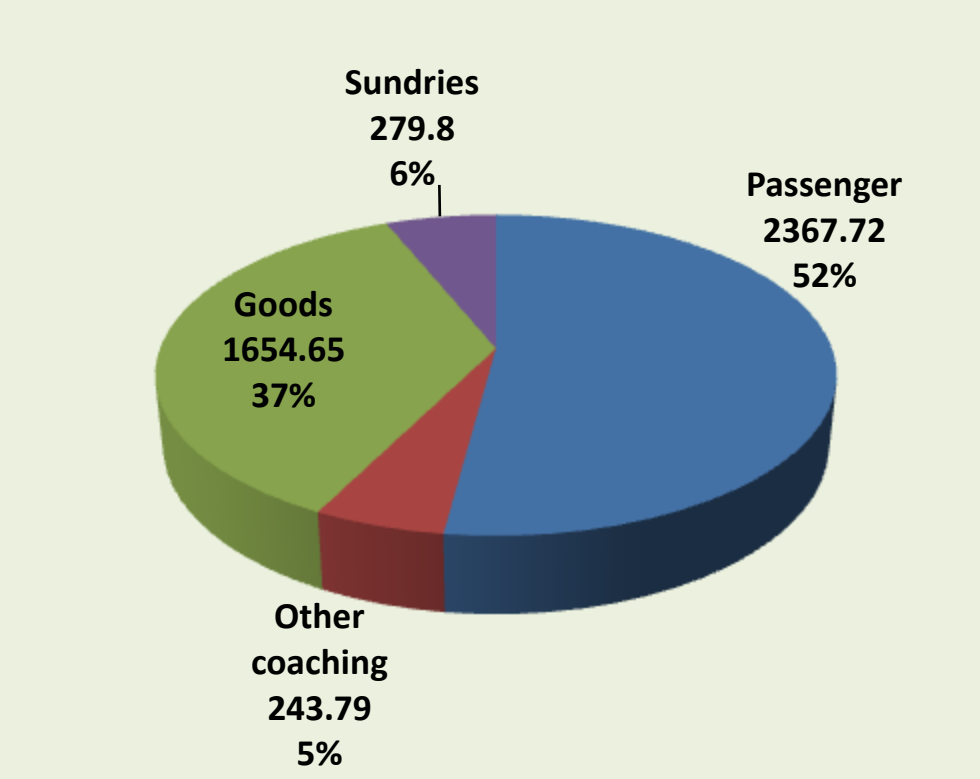
Where the money came from

(Rs. in crores)

Upto Oct.2014



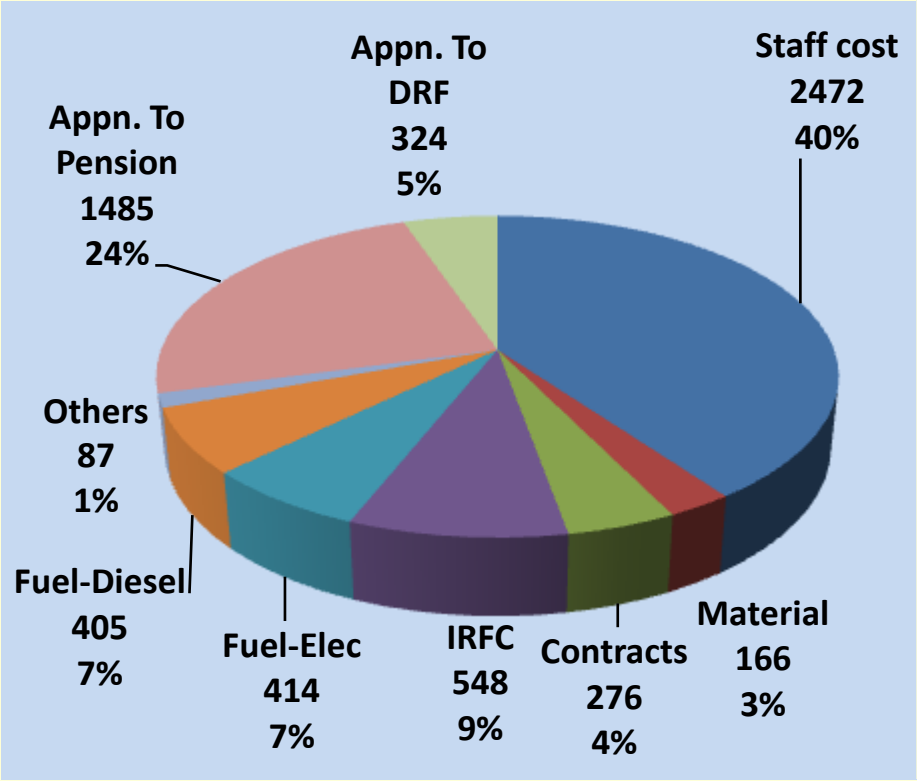
Upto Oct.2015



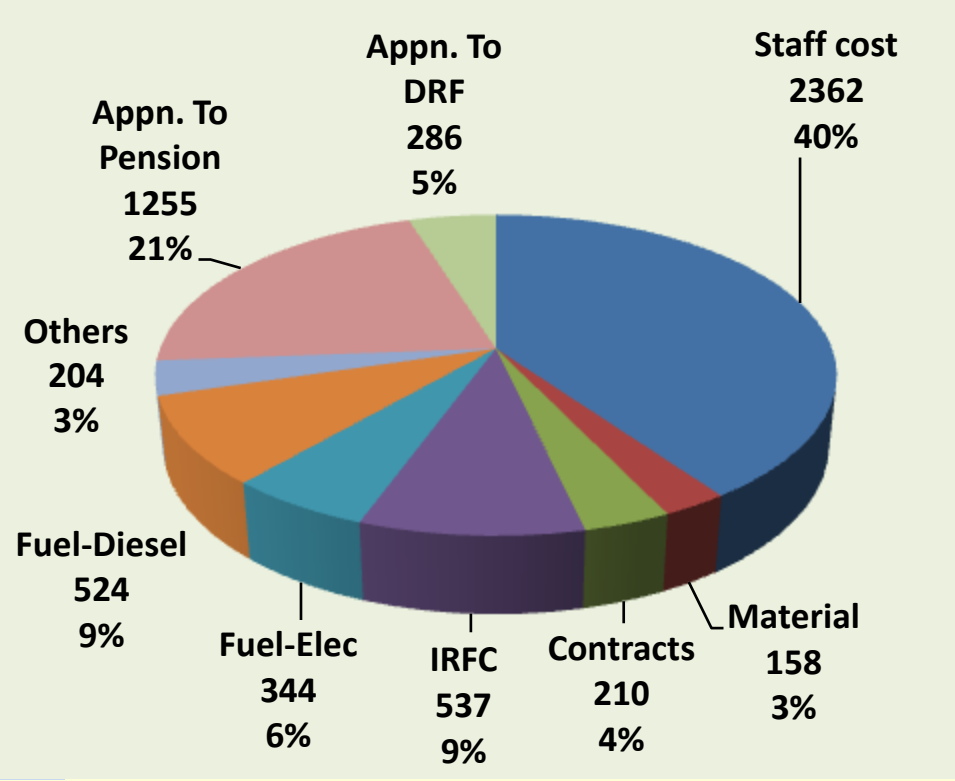
Where the money went

(Rs. in crores)

Upto Oct.2014



Upto Oct.2015



Passenger Services

Passenger Operations – Highlights

Ave. No. of Trains/Day

Mail/Exp	Passenger	EMU pass. (beyond suburban)	Suburban	MRTS	Total	(NMR)
273	330	145	447	132	1327	8

Reserved Specials		
Description	**Up to October 2014**	**Up to October 2015**
Premium/Suvidha/ Special Fare	71 (Premium)	167 (51-Suvidha+ 116-Special Fare)
Normal Fare	168	283
Total	239	**450**

Unreserved Specials		
Description	**Apr-Oct 2014**	**Apr-Oct 2015**
Specials	**414**	**762**

Passenger and Freight Yields in some Major Commodities

Country	Passenger Service Yield US Cents/ Passenger- Km adjusted for PPP(India-1)	Passenger Service Yield US Cents/ Total Tonne –Km adjusted for PPP(India-1)
India	1.00	1.00
China	2.70	0.58
Russia	6.70	0.75

Source:- World Bank (2012) Railways International Overview : Issues for India (12th Plan Document)

Unit Cost vis-a-vis Yield Per Unit

	Coaching Service			Freight Service		
	Cost Per KM.	Earnings PKM	Ratio	Cost Per NTKM	Earnings Per NTKM	Ratio
1999-00	**35.83**	**22.21**	**62.0%**	**55.91**	**72.28**	**129.3%**
2008-09	**48.86**	**26.13**	**53.5%**	**63.74**	**96.90**	**152.0%**
2009-10	**52.87**	**25.96**	**49.1%**	**65.84**	**97.41**	**147.9%**
2010-11	**52.60**	**26.32**	**50.0%**	**67.63**	**100.44**	**148.5%**
2011-12	**54.38**	**26.99**	**49.6%**	**69.64**	**104.17**	**149.6%**
2012-13	**57.76**	**28.52**	**49.4%**	**75.28**	**123.27**	**163.7%**
Source: White Paper on Indian Railways Feb.2015						

Social Service Obligation

- IR Has been providing certain Goods and Passenger services at below the cost of operation. The loss occurring from such operations, which are justified for meeting wider socio-economic objectives, are termed as “Social Service Obligation”. The losses during 2013-14 are:

	Rs. In Crs.
Loss on essential commodities carried	53.31
Loss on Coaching Services	
Non Suburban	27934.55
Suburban	4132.45
TOTAL LOSS	**32067.00**

Suggestions For Improving Passenger Earnings

I. a) Increase the Suburban Passenger Tickets during peak hours (Charging of Higher fare for travel during Peak Hours (7a.m. to 11 a.m. and 4 P.M to 8 P.M) by Re.1/-.

b) Season tickets (Monthly) by Rs. 10/- per ticket.

II. For Travel between A1 and A stations, where better Passenger amenities are provided a surcharge of Rs. 2/- per originating and Rs. 2/- for terminating on A1 and A stations.

Estimation of Additional Earnings for 2016-17 based on October- 2015 trend of Passengers Booked

I. Suburban : Rs.10/- per season ticket for peak hours & Re.1 for Suburban (Ordinary)tkts. for peak hours :

In Crs Of Rs.

SUBURBAN	No. Of Tickets	Southern Railway	Indian Railway
Season ticket	182 million tkts for SR & 1803 ml. For IR	19.00	180.00
Other than season tickets	28.6 million pass for SR & 762.1 ml. Pass for IR	3.00	76.00

Estimation of Additional Earnings for 2016-17 based on October- 2015 trend of Passengers Booked

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Other than season tickets	28.6 million pass for SR & 762.1 ml. Pass for IR	3.00	76.00

Estimation of Additional Earnings for 2016-17 based on October- 2015 trend of Passengers Booked

II. Non-Suburban : Assuming 60% travelers, for travel between A1 to A1 and A class of stations, @ Rs.4 per tkt(Rs.2/-Per Originating and Rs.2/- Per destination). As Passenger Amenities surcharge :

		Rs. In Crs.	
No. Of Originating Passengers		**Southern Railway**	**Indian Railway**
484 million tkts for SR	**4815 millions. For IR**	**193.57**	**1926.02**

Additional Revenue Mobilisation

Number of Passenger Tickets Booked "In Millions

		Suburban			
		No. Of Season tickets.**	Season Tickets Passengers	Other Than Season Passengers	Total Suburban
2013-14	SR	189	378.25	29.51	407.76
	IR	1840	3680.29	869.56	4549.85
2014-15	SR	184	367.03	28.63	395.66
	IR	1822	3643.18	860.79	4503.97
Estimate for 2015-16	SR	182	363.36	28.60	391.96
	IR	1803	3606.75	762.10	4368.85

Remarks: SR - Southern Railway; IR- Indian Railways. Source:- IR Annual Statistics. One Season Ticket – 50 Passengers.

Additional Revenue Mobilisation

Number of Passenger Tickets Booked "In Millions

		Non Suburban		
		PRS	Non PRS	Total Non Suburban
2013-14	SR	61.55	362.05	423.60
	IR	459.79	3415.96	3875.75
2014-15	SR	64.63	346.83	411.46
	IR	487.77	3242.25	3730.02
Estimate for 2015-16	SR	69.82	344.75	414.57
	IR	511.23	3144.98	3656.21

Remarks: SR - Southern Railway; IR- Indian Railways. Source:- IR Annual Statistics.

THANK YOU

FA&CAO
SOUTHERN RAILWAY

INVENTORY CONTROL & ITS IMPACT ON BUDGET SAVINGS

By Dr Chandrasekhar Rao
FA&CAO/SWR.

Beginning

- IC is Art and Science of maintaining the stock level of a given group of items, incurring the least total cost, consistent with other relevant targets and objectives set by the management.
- Maintenance of inventories at optimum level and at the same time ensuring satisfactory service to the consuming departments with the least cost.
- Typically Material cost 45 to 70% Expenditure

EFFICIENCY INDICES

1.Service Level: % age of compliance of demands(requistion of materials) of user departments.

90-98% depending upon criticality

100% target for Vital Safety items

Higher the better

2.Inventory TOR: Measure of average inventory held in stock at a time.

$$= \frac{\text{Closing Balances as on date}}{\text{Cumulative Issues}} * 100$$

Lower the Better.

Inventory Management contd..

- Inventory Control Techniques

1. **Selective Control**: Categorization of items on certain basis; Consumption Value, unit price, Criticality, source of supply, stores balances on a date etc. ABC/VED are two such classifications.

2. **Management by Exception**: Overstock/Surplus/Inactive items lists(D 1/D2 category).

Inventory Management contd..

3.Suitable Recoupment Policies:

To keep optimum stocks

4.Value Analysis:

Achieving the same function with minimum cost with alternative design/materials

5.IT Applications:

- MIS for Management decisions based on real time, statistical analysis.
- MMIS on IR

Inventory Control

- **ABC Analysis** Basis:Usage of Value.
  - Annual Consumption Value.
    - 70% value represented by A Cat. Items
    - 20% value by B Cat. Items
    - 10% value by the rest, C Cat. Items.

- **VED Classification**: Basis:Criticality of item
  - Vital, Essential & Desirable items
  - Vital items are critical for operation & do not permit any corrective time, need immediate replacement
  - Essential items are also critical for operation but operation does not come to stand still at once, some corrective time is available
  - Remaining items are known as desirable items.

Impact on Budget

(Rs in crs.)

Description	2012-13	2013-14	2014-15
Capital at charge	5085.10	6062.43	7025.13
Stores Purchases	1122.58	1349.33	1316.61
Inventory at the end of the year	73.55	51.55	84.05
Turn over Ratio(incl Fuel)	7	4	7
Turn over Ratio(other than Fuel)	8	16	17
Dividend to General Revenue	188.58	277.67	326.25
Dividend to General Revenue ***(Stores portion appx.)***	2.73	2.36	3.90
Operating Ratio ***(in %)***	104.85	115.41	98.72

During 2014-15, the closing stock was high though the value of purchases was lesser than the previous year, resulting in higher outgo of dividend.

Impact on Budget

- The efficiency of Inventory Control is judged by Turn Over Ratio (TOR) which is expressed in percentage of value of closing balance at the end of financial year to the value of issues during the year.
- Quantities in excess of 50 per cent of total issues during the preceding year are termed as overstocks.
- TOR of other than Fuel is High. Ideal TOR should be less than 10
- In Railways, the net stores balances (purchases minus issues) on 31 March each year attracts dividend payable to General Revenues at a prefixed percentage. Hence, more the stores balances, more payment towards dividend to General Revenues.

Purchases in SWR(2015-16)

- Total Purchase grant is 301.11 crores
- Out of this about 50% is projected for procurment of workshop materials.
- Total purchases upto Oct 15 is 146 Crores
- Total liabilites as per liability register as on Oct 15 Including throw forward is 224 crores.
- **Balance PG available is 77 crores.**

Inventory Depot wise as on 23-11-15(In Crs)

depot	Depot name	Closing Balance
01	AMM/DSD/UBL	10.98
02	AMM/MSD/UBL	25.79
03	DY CMM/AP	24.05
06	AMM/SBC	4.76
16	AMM/DSD/KJM	11.86
33	Dy CMM/GSD/UBL	23.79
Total		101.26

The total inventory as on hand is 101.26 cr which is high

Role of Stock Verifiers

- Special focus on Accumulation of Non moving/High Value items

- In SWR, during Survey 54.29 crore worth(Approx)/20310MTs unservicable/scrappable p way material has been identified for disposal through COS/PCE

Division	In MTs
SBC	6177
UBL	10794
MYS	3339

Practicality

- Forced Issues: About 60 % Material in last 3 to 4months of FY.
- Erratic Supplies from Centralized agencies like DSP, RWF, DMW etc., affecting inventory adversely esp. WTA items. (The supplies constitute almost 35% to 40% of Total purchases in SWR).
- Foreign Suppliers not agreeing for Phased Deliveries.
- Procurement lead time on Average is almost 6 to 8 months.
- Change in Policies eg Change in Maintenance Schedules by Board thereby affecting Inventory adversely.
- Forced Supplies of Rail Springs from RSK Sithouli without any outstanding Indents/demands from this Rly. (Dec 14-1.5 cr, Sep/Oct 15-1 Cr.)

Case Study-Mysore Workshop

- DyCMM/AP, AMM/SBC and SMM/KJm cater to the needs of MYS ,SBC Divisions,and Diseal shed/KJM respectively. Following are the turn over ratio of the Depots mentioned above to the end of September/2015 and October/2015:

	Oct-15	Sept/2015	OCT,14	SEP,14	March,2015
DyCMM/AP	31%	31%	28%	28%	10%
AMM/SBC	32%	34%	35%	33%	9%
SMM/KJM	70%	65%	44%	47%	15%

1) Further analysis reveals that the higher inventory turnover ratio is due to lesser issues of P.way materials and Diesel loco parts in respect of Dy.CMM/AP during the middle of the year.

2) Due to lesser issues of S&T stores, P.way stores and crockery, clothing and personal equipments in respect AMM/SBC during the middle of the year.

3) Due to lesser issues of Diesal loco parts, carriage & wagon parts,Electrial stores, Roller bearings etc in the middle of the year .

4) It can be seen that the inventory turn over ratios of the depots culminate in huge turn over ratio for the Railway at the end of the financial year. This goes to show that heavy issues are done during the month of March. Thereby Inventory control is ineffective .

•P.Way materials = Tools & implements, like shovels, crow bars , pick axe etc.

•Electrical = Armature and Imprest stores. S&T = relays, inverters, cables, phones etc.

Case Study-Hubli Workshop

Inventory Position as on 31-10-15

Age wise analysis	GSD (Depot no 03)		MSD(Depot no 33)		Total (Amount in Rupees)	
< 1year	760	18,69,92,470.00	602	26,57,79,548.00*	1362	45,27,72,018.00
Bet 1 & 2	31	13,58,612.00	129	21,17,265.00	160	34,75,877.00
Bet 2 & 3	7	87,831.00	24	93,689.00	31	1,81,520.00
>3 yrs	20	26,140.00	24	2,37,415.00	44	2,63,555.00
	818	18,84,65,053.00	779	26,82,27,917.00	1597	45,66,92,970.00

- Material are normally obained from MSD for UBL workshop POH activities.
- **The stock available is to tune of 26.82 crore as on 31.10.15**

Case Study-Hubli Workshop

Drawal of Material to end of Oct 15.

Year	BG	FG	Actual	To end of Sept'	To end of Oct' 15	% utilisation upto Sept.(on FG)
2013-14	132 cr	93 cr	92 cr	28.74 cr	40.13 cr	30.90 %
2014-15	117 cr	99.94 cr	92.04 cr	39.80 cr	43.45	39.82 %
2015-16	120 cr	-	-	26.11 cr	34.89	21.76 %
% booking compared to previous year = less by 14.41 %						

- There is less booking of Rs 8.56 Cr at end of Oct 2015 Vis a Vis COPPY)

Case Study-Hubli Workshop

POH OUTTURN as on 31-10-15

YEAR	POH TARGET	POH ACTUALS	BG/FG	Material Drawn	Material cost per Out turn
2013-14	984	1015	93 .00 cr	92.43	0.09 cr
2014-15	1056	1127	99.94 cr	92.04 cr	0.08 cr
2015-16	1140	695 to end of Oct'15	120.00 cr	34.89	0.05 cr

- On the one hand it is seen that POH out turn progress is as per Schedule and within Target, as against monthly target of 95/month the average to end of October is 99/month.
- On the other hand there is less drawal /booking due to Excess inventory in shop.
- BG Of Rs 120 cr for year s higher and if same trend continues there is a scope of surrendering about 20 to 25 crore during RE/BE stage itself.

Category A & B stock position

AAC vs. STOCK VALUE (in Crores)

Depot no	AAC Value		Stock Value	
	Category A	Category B	Category A	Category B
1	32.92	16.16	2.86	3.53
2	46.8	9.94	16.23	3.02
3	47.16	12.33	10.45	3.31
6	7.93	3.06	1.99	1.08
16	14.72	11.21	2.88	3.07
33	29.56	10.49	5.93	4.36
Total	**179.09**	**63.19**	**40.34**	**18.37**

- Wrt A Category : The Monthly average for A category based on AAC value is about 15 Cr however the stock in hand is 40.35 Cr which is 2.67 times more.

- Wrt B Category : The Monthly average for B category based on AAC value is about 5.26 Cr however the stock in hand is 18.37 Cr which is 3.4 times more.

Stock on Hand more than AAC

Position as on 23-11-15

S.No	PL_NO	DESCR	ABC	BAR	SOH	AAC	Value
1	17230044	Wheel disc rough for WDG4 GM loco to RDSO Drg. No.	A	67593	1207	700	**81584751**
3	18440022	GEAR.. Bull-90 teeth to EMD Part No.40074148	C	169041	24	18	4056984
14	10916039	Rough wheel for WDM2, WDG2 BG Locomotives (rolled)	A	92924	217	160	20164508
19	16240066	VALVE EXHAUST	B	1949	4471	2432	8713979
20	16150181	BEARING CON ROD LOWER	C	8290	366	312	3034140
21	16141441	PIN PISTON	B	20205	359	304	7253595

- The total stock on hand more than AAC value is about 17.84 crs.(Above table has highlighted only sample items)

HSD OIL Inventory Control

Comparison for 6 Months vis a vis COPPY

Period		For 6 Mth	For 30 days	For 1 Day	Stk Availability (Days)
To End Sep 14	Reciept	115689.3	19281.5	642.7	180
To End Sep 15		109442	18240.35	608.01	180
To End Sep 14	Issues	103418.7	17236.46	0	160.91
To End Sep 15		107659.1	17943.1	0	177.07
To End Sep 14	Balance	12270.53	2045.09	0	19.09
To End Sep 15		1782.95	297.16	0	2.93

- From the above table we can observe that during 2014-15 the total issue of HSD oil from SBC, UBL & MYS was 103418.77 KL where as in 2015-16 the issue was gone up to 107659.13 i.e (103418.77Kl – 107659.13Kl)=4240.36Kl. This shows up a gray area which is being studied.

- During 2015-16 220149 Kl of HSD oil was vetted by this office. Railway board vide letter No. 2013/ACII/2/2 Dt. 16.09.2014 advised to procure bio-diesel up to 5% to blend with HSD oil and the same is vetted by this office and 1175KL bio-diesel was vetted. This Railway is verifying the proportionate adjustment between bio-diesel and HSD.

- Computerization of all RCDs (end to end) and link with MMIS module will help to keep a check on HSD oil inventory. This will also keep a tab on oil issued for non traction purposes.

Suggestions

Role of Executive

- Timely Submission of Estimate Sheets(ES)
- Realistic assessment of AACs
- Adhering to Timeline of Sending Indents to Stores/Accounts.
- Timely Departmental Stock Verification as per Code
- Periodic Review of Bulk Indented Quantities to be procured from Centralized agencies and advise COS accordingly.

Role of Stores dept

- Effective coordination With Executive and Timely Reviews.
- Reduce the lead time(Internal & External) for procurement
- Phased deliveries from Suppliers
- Not to accept deliveries without orders from any agencies.
- Involving Depots in Forecasting etc
- Proper Vendor Evaluation
- Steps to dispose scrap as market prices are on declining trend esp Ferrous.

Suggestions

Role of Accounts

- Consolidated AACs Vetting based on Budget & Purchase Grant has started in SWR. Key is Prioritization of material required by the Executive.
- Timely vetting .
- Recovery from Suppliers wrt Rejected Materials – **A centralised MMIS with unified PL no. and unified supplier code will effect better control over defective supplies and effect recovery.**

Role of Depot /Workshops

1. Material handling cost should be reduced. Avoidable movement of material should be cut down, as lot of man hours are wasted.

2. Materials declared as Obsolete should be disposed of quickly.

3. AAC Quantity vs. Actual Issues should be observed by the DMS and procurement should be done only when the BIN CARD balance shows re-order level. **The feasibility of maintaining inventory with RFID tags should be explored so as to reduce inventory level as well as carrying cost.**

4. Indian Railways has no means of evaluating Carrying cost. This leads to inefficient costing of contractors materials vs. COS procured materials.

5.The cost of manufactured items like Composite Brake Blocks should be brought down by finding alternative ingredients in the market or by doing Research in the labs. As it is seen that cost of antimony used is on the increasing trend which forms part of more than 50% of the total cost of finished goods. Vendor management should be more transparent and vibrant to allow more competition.

Suggestions

Stages of INVENTORY MANAGEMENT & Inter departmental Role Matrix

Stages	Departments Involved
Planning	Primarily Executive/Stores and Imp role for Accounts
Budgeting	Imp role for Executive /Stores & Accounts
Procurement	Primarily Stores and Imp role for Accounts
Storage	Primarily Stores and limited role for Accounts
Supply	Primarily Stores
Disposal	Primarily Executive/Stores and Ltd role for Accounts

- Inventory control should be a planned and regular exercise and not a year end exercise which looks very artificial.
- Need to explore Possibilities of JIT (Just in time techniques) at least for some items wherever feasible and there can be a tie up with RDSO approved sources.
- Introducing Modern Storage/RFID tagging .
- Training of staff in modern Method of Inventory control

.

.

- Thank you

PRESENTATION

BY

FA & CAO/WCR

ON

IRAS DAY 28TH NOV. 2015

CONTENTS

- Introduction
- Cost of Linen
- Own Your Linen Scheme
- Advantages

INTRODUCTION

- The Own Your Linen scheme may be introduced to ensure that passengers get hygienic bedroll while travelling.
- The practice of providing reusable bedroll sets in AC coaches may be replaced with an option of getting disposable linen on payment basis.

COST OF PROCUREMENT AND WASHING OF LINEN PER SET PER DAY

(In Rs.)

Type of Linen	Purchase Cost Per Item as per Stores Contract Rate	Average life of Item	Per day Cost of Item	Per Item Washing Cost(as per contract rate of JBP dvn.	Total Cost
Bed Sheet	138.00	365 days	0.376	6.00	12.752 (for Two Bedsheet in one Bed Roll)
Pillow Cover	27.00	9 Months	0.100	2.95	3.050
Face Towel	22.00	9 Months	0.081	2.95	3.031
Blanket	367.00	4 Years	**0.251**	0.60	0.851
Pillow	**105.00**	**3 Years**	**0.095**	**--**	**0.095**
	Per day Total cost including washing and Transportation for <u>One set Bed roll</u> in II AC coach				**19.779**

YEARLY EXPENDITURE ON LINEN

In Rs

Per day Total cost including washing and Transportation for One set Bed roll in II AC coach	19.779
Quantity of linen required per day in Jabalpur division	5500 sets.
Per day total expenditure on Linen on Jabalpur division	1,08,784.50
Per year expenditure on procurement and washing of linen on **Jabalpur division**	3.97 Crores

OWN YOUR LINEN SCHEME

With the introduction of Own Your Linen Scheme, Railway may charge Rs. 60.00 plus taxes, per Bed roll per Passenger and after Journey the passenger will own the set.

ADVANTAGES

- No public complaints regarding improper washing and poor condition of linen.
- Provision of hygienic linen will directly result in enhanced customer satisfaction.
- Less chance of transfer of communicable diseases.
- The present Annual expenditure of Rs. 3.97 crores per division will be saved.

ADVANTAGES

- The requirement of man power i.e. coach attendant will be reduced drastically.

- More space will be available in each AC coach due to reduction in quantity of linen to be stocked. The space so saved may be used as additional berth space.

- No problem of wear and tear, and theft of linen.

- “Swashthya Rahega India To Badhega India”.

THANKS

FA&CAOs' CONFERENCE
NEW DELHI – 28.11.2015

WESTERN RAILWAY
PRESENTATION

Cost Reduction – Traction Energy

- Traction Energy costs is 12.89% of OWE.
- 2014-15 Consumption: 1586 m.KWH Rs.1123 crs.
- Cost Reduction - area of focus in 2015-16.

Initiatives for Cost Savings

- Purchase power from GUVNL, Baroda, Gujarat
- Purchase power from RGPPL
- Power purchase from Bharat Rail Bijlee Co. Ltd., Nabinagar

➢ Meetings held with Chairman, MERC

➢ Issues with SEBs. Required intervention of CERC

Savings in MSEDCL

APRIL – DEC. 14-15			APRIL – DEC. 15-16		
Consumption (MU)	Rate	Amount (Rs. In Crs.)	Consumption (MU)	Rate	Amount (Rs. In Crs.)
186.37	9.44	175.95	187.48	8.72	163.57

Savings achieved by meetings and representation to Chairman, MERC

-Due to rate reduction : Rs. 12.38 Crs.

-Due to waiver of MSEDCL proposed hike of 8% i.e. Rs.27 cr.

Savings through RGPPL

Consumption location	Unit in millions	Rate 2014-15	Amount (in crs of Rs.)	Identified Power Supplier	Identified consumption from open access / direct purchase 2015-16	Rate from open access / direct purchase	Savings for 3 months (Jan to March)
Maharashtra							
TATA	298	7.66	228.27				
MSEDCL	244	9.30	226.92	RGPPL	61	4.77	24.7
Gujarat	744	6.54	486.58	RGPPL	65	4.77	13.24
Madhya Pradesh	300	6.04	181.20				
Total	**1586**		**1122.97**				**37.00**

CSR at BCT Stn.

- CSR initiatives in switching over from traditional lighting methods to LED.
- M/s Syska had replaced old lightings with new LED fittings under CSR activities at zero cost in lieu of 2 display boards for credits.
- Earnings of two display boards of 20’ x 4’ = 80 Sq feet x Rs 505 = Rs 40,400 x 2 = Rs 80,800 pa

Annual savings from LED Lights at BCT Stn.

Sr.No	Details	Unit consumption per annum BCT-Stn	BCT - Stn (PA Cost) Amt. In Rs.	Unit consumption per annum BCT - Div	BCT – DIV (PA Cost) Amt. In Rs.
1	Existing Luminaries	3,17,550	31,75,500	82,75,014	8,27,50,140
2	Replaced luminaries	1,27,020	12,70,200	33,10,006*	3,31,00,060
3	Savings #	1,90,530	19,05,300	49,65,008	4,96,50,080
4	% Cost savings		**60**		**60**
	Cost of replacement		50,00,000		13,03,00,000*
	* Approximate units considered in proportion to BCT-Stn # Cost is assumed at Rs 10/- per unit				

Review of Mushkil Aasan Scheme

- Scheme Mushkil Aasan under which a van sells Railway Ticket at different points at Anand (BRC divn)
- Launched in 7.6.2012, Avg sale is 29 tickets per day as against 95 tickets through counter.
- Expenditure
  - Staff salary Rs 6.33 lakhs
  - Vehicle hire Rs 3.22 Lakhs
  - Net connectivity charges Rs 28848/-

  Total Rs 9.85 Lakhs /annum

Ideas for Resource Generation

- Station management through PPP mode
- Rationalized maintenance system of staff colonies – merging & outsourcing of Engineering & Electrical functions.
- Reducing scope of cleanliness contract at Stations / Trains
- Travelling Gatemen on Uneconomic Branch Lines
- Reduction of shed visits by EMD Locos
- Review of Rake Links
- Review of Mushkil Aasan Scheme

Initiatives taken for efficiency in delivery in 2015-16

- To reduce 45 days time in preparation of St.7-C.
- E-Recon modifications - 7 modules to be completed, 5 over, 2 to be completed by March ‘16.
- System of checks on cancelled tickets to be revamped – Target Date – 15.12.2015.
- Lastly, issue of manual of instructions for TIAs of I.R. – Target Date – 31.03.2016.

THANK YOU